CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

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ORDER R5-2013-XXXX
NPDES NO. CA0081485

WASTE DISCHARGE REQUIREMENTS FOR THE CUTLER-OROSI JOINT POWERS WASTEWATER AUTHORITY WASTEWATER TREATMENT FACILITY TULARE COUNTY

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

Table 1. Discharger Information

Discharger	Cutler-Orosi Joint Powers Wastewater Authority
Name of Facility	Wastewater Treatment Facility
Facility Address	40401 Road 120
	Cutler, California 93615
	Tulare County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by the Cutler-Orosi Joint Powers Wastewater Authority from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	undisinfected secondary treated domestic wastewater	36 º 30 ’ 00 ” N	-119 º 17 ’ 60 ” W	First Encountered Groundwater
002	disinfected secondary treated domestic wastewater	36 º 31 ’ 23 ” N	-119 º 18 ’ 12 ” W	Sand Creek

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	<adoption data>
This Order shall become effective on:	<effective date>
This Order shall expire on:	<expiration date>
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date

I, **PAMELA C. CREEDON**, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **<Adoption Date>**.

_____
PAMELA C. CREEDON, Executive Officer

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I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	Cutler-Orosi Joint Powers Wastewater Authority
Name of Facility	Wastewater Treatment Facility
Facility Address	40401 Road 120
	Cutler, California 93615
	Tulare County
Facility Contact, Title, and Phone	Leonard Encinas, Chief Plant Operator, 559-528-2504
Mailing Address	Same as Facility Address
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	2.0 million gallons per day

II. FINDINGS

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

A. Background. Cutler-Orosi Joint Powers Wastewater Authority (hereinafter Discharger) is currently discharging pursuant to Order R5-2006-0092 and National Pollutant Discharge Elimination System (NPDES) Permit No.CA0081485. The Discharger submitted a Report of Waste Discharge (ROWD), which was received on 25 March 2011**,** and applied for a NPDES permit renewal to discharge up to 2.0 million gallons per day (mgd) of treated wastewater from the wastewater treatment facility**,** hereinafter Facility. A revised ROWD was received on 12 September 2011. The application was deemed administratively complete on 12 October 2011**.**

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

B. Facility Description. The Discharger owns and operates a wastewater treatment facility (WWTF) serving the communities of Cutler, Orosi, East Orosi, Yettem, Seville, and Sultana. The WWTF includes: raw wastewater screening units; an influent pump station; trickling filter treatment train consisting of two primary clarifiers, two trickling filters, and a recirculation pump station; an oxidation ditch treatment train consisting of an oxidation ditch, secondary clarifier, and return and waste activated sludge pump stations; an ultraviolet light disinfection system (the WWTF does not utilize chlorine for disinfection); an effluent pump system; unlined wastewater ponds; cropland for application of treated wastewater; and an outlet structure for discharge of treated effluent to either ponds, cropland, or Sand Creek, a water of the United States, and a tributary to the Tule River within Tulare-Buena Vista Lakes Watershed. The design flow rate for treatment capacity for the WWTF is 2.0 million gallons per day (mgd).

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Raw wastewater is initially split between the trickling filter treatment train and the oxidation ditch treatment train. The trickling filter treatment train typically handles a fixed flow of 0.5 mgd. However, effluent from the trickling filter treatment train is directed to the head of the oxidation ditch treatment train. Therefore, the oxidation ditch treatment train handles the entire flow of the WWTF. Treated wastewater is discharged to any of the following: two unlined wastewater ponds, cropland, or Sand Creek. The two unlined wastewater ponds allow for storage, percolation, and evaporation of the treated effluent and each has a capacity of 10.75 million gallons. Treated effluent in the two unlined wastewater ponds can also be discharged to either cropland or Sand Creek.

There are two wastewater discharge locations, identified as Discharge 001 (discharge to cropland) and Discharge 002 (discharge to Sand Creek between 1 November and 30 April). Discharge 001 consists of 118.8 acres of double-cropped Sudan grass and winter wheat. The cropland is divided into five sections identified as A, B, C, D, and E. The land application area is owned by the Discharger and the Discharger is responsible for wastewater application; however, planting and harvesting of the crops is the contracted to a local farmer. The Discharger owns 20 additional acres of cropland that could receive WWTF effluent if conveyance piping were to be installed.

In addition to the two unlined wastewater ponds, there are 12 unlined sludge drying beds, four lined sludge drying beds (Deskins; constructed in 2010), and two unlined dried sludge storage beds at the site. The 12 unlined sludge drying beds and two unlined dried sludge storage beds are no longer used to dry sludge. The four lined sludge drying beds are currently used to dry sludge and skimmings from the secondary clarifier. Dried sludge is ultimately hauled off-site to a landfill or compost facility.

In the event that the elevation of groundwater is within five feet of ground surface where wastewater is applied or within five feet of the bottom of the wastewater ponds, the treated effluent is disinfected with ultraviolet light. The direction of groundwater flow is primarily to the southwest. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. Legal Authorities. This Order is issued pursuant to section 402 of the Clean Water Act (CWA) and implementing regulations adopted by USEPA and chapter 5.5, division 7 of the California Water Code (Water Code; commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

D. Background and Rationale for Requirements. The Central Valley Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information

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and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G through J are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177. On 19 November 1996, the Discharger certified a final Environmental Impact Report (EIR) in accordance with CEQA and Section 15090 of the State CEQA Guidelines. At the time, the Central Valley Water Board considered the EIR and concurred there are no significant impacts on water quality as a result of the WWTF discharge.

F. Technology-based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (40 CFR 122.44), require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR Part 133. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet.

G. Water Quality-based Effluent Limitations (WQBELs). Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Central Valley Water Board adopted a *Water Quality Control Plan, Second Edition (Revised January 2004)*, for the Tulare Lake Basin (hereinafter Basin Plan) that designates beneficial uses in Section II, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Table II-1 of the Basin Plan identifies the beneficial uses of certain specific water bodies. Table II-1 does not specifically identify beneficial uses for Sand Creek, but does identify beneficial uses for Valley Floor Waters. Sand Creek is a Valley Floor Water. Beneficial uses applicable to Sand Creek are listed in Table 5 below.

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The Basin Plan designates beneficial uses for groundwater underlying the Facility and its land application area, which are in Detailed Analysis Unit (DAU) #239 of the Kings Basin Hydrologic Unit. The designated beneficial uses of groundwater for this DAU are listed in Table 5 below.

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Uses
001	Groundwater	Municipal and domestic supply (MUN); Agricultural supply, including irrigation and stock watering (AGR); Industrial process supply (PRO); and Industrial service supply (IND).
002	Sand Creek	Agricultural supply, including irrigation and stock watering (AGR); Industrial process supply (PRO); Industrial service supply (IND); Water contact recreation, including canoeing and rafting (REC-1); Non-contact water recreation (REC-2); Warm freshwater habitat (WARM); Wildlife Habitat (WILD); Rare, Threatened, or Endangered Species (RARE); and Groundwater Recharge (GWR).

The requirements of this Order implement the Basin Plan.

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

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

K. **Compliance Schedules and Interim Requirements.** In general, an NPDES permit must include final effluent limitations that are consistent with CWA section 301 and with 40 CFR 122.44(d). There are exceptions to this general rule. The State Water Board's *Policy for Compliance Schedules in National Pollutant Discharge Elimination*

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System Permits (Compliance Schedule Policy) allows compliance schedules for new, revised, or newly interpreted water quality objectives or criteria, or in accordance with a TMDL. All compliance schedules must be as short as possible, and may not exceed ten years from the effective date of the adoption, revision, or new interpretation of the applicable water quality objective or criterion, unless a TMDL allows a longer schedule. A Regional Water Board, however, is not required to include a compliance schedule, but may issue a Time Schedule Order pursuant to Water Code section 13300 or a Cease and Desist Order pursuant to Water Code section 13301 where it finds that the discharger is violating or threatening to violate the permit. The Regional Water Board will consider the merits of each case in determining whether it is appropriate to include a compliance schedule in a permit, and, consistent with the Compliance Schedule Policy, should consider feasibility of achieving compliance, and must impose a schedule that is as short as possible to achieve compliance with the effluent limit based on the objective or criteria.

The Compliance Schedule Policy and the SIP do not allow compliance schedules for priority pollutants beyond 18 May 2010, except for new or more stringent priority pollutant criteria adopted by USEPA after 17 December 2008.

Where a compliance schedule for a final effluent limitation exceeds one year, the Order must include interim numeric limitations for that constituent or parameter, interim milestones and compliance reporting within 14 days after each interim milestone. The permit may also include interim requirements to control the pollutant, such as pollutant minimization and source control measures. This Order does not include compliance schedules and interim effluent limitations and discharge specifications.

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

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on 5-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), flow, and percent removal requirements for BOD_5 and TSS. The WQBELs consist of restrictions on copper, total coliform, pH, chloride, electrical conductivity (EC), boron, un-ionized ammonia, settleable solids, and acute and chronic whole effluent toxicity. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have

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been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the CTR-SIP, which was approved by USEPA on 18 May 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless *"applicable water quality standard[s] 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 CWA and the applicable water quality standards for purposes of the CWA.

N. Antidegradation Policy. 40 CFR 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Central Valley Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and Resolution No. 68-16.

O. Anti-Backsliding Requirements. Sections 303(d)(4) and 402(o)(2) 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. All effluent limitations in this Order are at least as stringent as the effluent limitations in Order No. R5-2006-0092 (NPDES No. CA0081485).

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

Q. Monitoring and Reporting. 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. The Monitoring and Reporting Program is provided in Attachment E.

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The technical and monitoring reports in this Order are required in accordance with Water Code section 13267, which states the following in subsection (b)(1), "*In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.*"

The Discharger owns and operates the Facility subject to this Order. The monitoring reports required by this Order are necessary to determine compliance with this Order. The need for the monitoring reports is discussed in the Fact Sheet.

R. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42. The Central Valley Water Board has also included in this Order special provisions applicable to the Discharger. Some special provisions require submittal of technical reports. All technical reports are required in accordance with Water Code section 13267. The rationale for the special provisions and need for technical reports required in this Order are provided in the Fact Sheet.

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

T. Notification of Interested Parties. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.

U. Consideration of Public Comment. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

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THEREFORE, IT IS HEREBY ORDERED, that Order No. R5-2006-0092 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

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III. DISCHARGE PROHIBITIONS

A. Discharge of pollutants to Sand Creek from other than Discharge 002 is prohibited, and is prohibited from **1 May through 31 October** of each year.

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

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

D. Neither the discharge nor its treatment shall create a condition of nuisance or pollution as defined in section 13050 of the Water Code.

E. The Discharger shall not allow pollutant-free wastewater to be discharged into the treatment or 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.

F. Discharge of waste classified as 'hazardous' as defined in Title 23, California Code of Regulations (CCR), Section 2521(a), et seq., is prohibited.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 002 (Sand Creek)

1. Final Effluent Limitations – Discharge Point No. 002 (Sand Creek)

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 002 (Sand Creek), with compliance measured at Monitoring Location EFF-002 as described in the Monitoring and Reporting Program:

a. The effluent limitations in Table 6:

Table 6. Final Effluent Limitations – Discharge Point No. 002 (Sand Creek)

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	45	60	--	--
	lbs/day	500[1]	750[1]	1000[1]	--	--
Total Suspended Solids	mg/L	30	45	60	--	--
	lbs/day	500[1]	750[1]	1000[1]	--	--
pH	standard units	--	--	--	6.5	8.3
Copper, Total Recoverable	µg/L	9.9	--	24	--	--
Chloride	mg/L	--	--	175	--	--

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Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Boron	mg/L	--	--	1.0	--	--
Un-ionized Ammonia	mg/L	--	--	0.025	--	--
Settleable Solids	mL/L	0.1	--	0.5	--	--

1. Based on a flow rate of 2.0 mgd in accordance with Effluent Limitation IV.A.1.f.

b. Percent Removal. The average monthly percent removal of 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) shall not be less than 85 percent.

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

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

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

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

i. 23 most probable number (MPN) per 100 mL, as a 7-day median. If discharge occurs for less than 7-days, median of all samples collected during the period of discharge;
ii. 240 MPN/100 mL, at any time.

f. Monthly Average Daily Discharge Flow. Discharge to Sand Creek shall not exceed 2.0 mgd and is only allowed from 1 November through 30 April.

g. Electrical Conductivity. The 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is more stringent. When source water is from more than once source, the EC shall be a flow-weighted average of all sources.

2. Interim Effluent Limitations – Not Applicable.

B. Land Discharge Specifications – Not Applicable

C. Recycled Water Specifications – Discharge Point No. 001 (cropland)

1. The Discharger shall maintain compliance with the following limitations at Discharge No. 001 (cropland), with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program:

a. The land discharge specifications in Table 7:

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Table 7. Recycled Water Specifications

Parameter	Units	Discharge Specifications		
		Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	30	--	60
Total Suspended Solids	mg/L	30	--	60
Settleable Solids	mL/L	0.2	--	0.5
Chloride	mg/L	--	--	175
Boron	mg/L	--	--	1.0

b. Percent Removal. The average monthly percent removal of 5-day biochemical oxygen demand (BOD5) and total suspended solids (TSS) shall not be less than 85 percent.

c. Total Coliform Organisms. Effluent shall be disinfected such that the total coliform organisms in the disinfected effluent do not exceed:

i. 23 most probable number (MPN) per 100 mL, as a 7-day median. If discharge occurs for less than 7-days, median of all samples collected during the period of discharge;
ii. 240 MPN/100mL, at any time.

These limitations apply only when actively discharging to either wastewater pond and groundwater is less than five (5) feet below the bottom of the wastewater ponds or when actively discharging to cropland and groundwater is less than five (5) feet below ground surface of cropland where wastewater is applied. Sections VII.E and F of this Order specify how these limitations will be determined to be applicable to the Discharger.

d. Average Dry Weather Flow.

i. Effective **<effective date of Order>** and until compliance with Special Provision VI.C.6.a, the average dry weather discharge flow shall not exceed **1.5 mgd**.
ii. Effective upon compliance with Provision VI.C.6.a, the average dry weather discharge flow shall not exceed **2.0 mgd**.

e. Electrical Conductivity. The 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is more stringent. When source water is from more than once source, the EC shall be a flow-weighted average of all sources.

2. Use of recycled water as permitted by this Order shall comply with all the terms and conditions of the most current Title 22 regulations.

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3. The recycled water shall be at least undisinfected secondary recycled water as defined in Title 22, section 60301.

4. For the purposes of this Order, "Use Area" means an area with defined boundaries where recycled water is used or discharged, as identified in Finding B, Attachment B, and the Fact Sheet.

5. All uses of recycled water shall provide for appropriate backflow protection for potable water supplies as specified in Title 17, CCR, section 7604, or as specified by the California Department of Public Health (DPH).

6. Recycled water shall remain within the permitted Use Area.

7. Use of recycled water shall be limited to the crops listed in Title 22, CCR, section 60304(d).

8. Application of recycled water and commercial fertilizer to Use Areas shall be at reasonable agronomic rates considering the crop, soil, climate, and irrigation management system. The annual hydraulic and nutrient loading of Use Areas, including the nutritive value of organic and chemical fertilizer and of the recycled water shall not exceed the crop demand.

9. The discharge shall be distributed uniformly on adequate acreage in compliance with the Land Discharge Specifications. All tail water must be returned to the head of the fields or treatment facilities.

10. Hydraulic loading of recycled water shall be at reasonable agronomic rates designed to minimize the percolation of recycled water below the root zone (i.e., deep percolation).

11. Public contact with recycled water shall be precluded through such means as fences, signs, and other acceptable alternatives. Signs with proper wording (shown below) of a size no less than four inches high by eight inches wide shall be placed at all areas of public access and around the perimeter of all areas used for effluent disposal or conveyance to alert the public of the use of recycled water. All signs shall present the international symbol similar to that shown in Attachment J and present the following wording:

RECYCLED WATER – DO NOT DRINK

AGUA DE DESPRERDICIO RECLAMADA – NO TOME

12. Recycled water controllers, valves, and similar appurtenances shall be affixed with warning signs and shall be equipped with removable handles or locking mechanisms. Quick couplers shall be secured in a manner that permits operation only by authorized personnel.

13. Areas irrigated with recycled water shall be managed to prevent breeding of mosquitoes. More specifically:

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a. All applied irrigation water must infiltrate completely within 24 hours.

b. Ditches not serving as wildlife habitat should be maintained free of emergent, marginal, and floating vegetation.

c. Low-pressure and un-pressurized pipelines and ditches, which are accessible to mosquitoes, shall not be used to store recycled water.

14. Discharges to the Use Area shall be managed to minimize erosion. Runoff from the Use Area must be captured and returned to the treatment facilities or Use Area.

15. Recycled water shall be managed to minimize contact with workers.

16. There shall be no standing water in the Use Area 24 hours after recycled water is applied.

17. The Discharger may not discharge recycled water to the Use Area during periods of precipitation or when soils are saturated.

18. A 50-foot buffer zone shall be maintained between any watercourse and the wetted area produced during irrigations with recycled water. After adoption of this Order, if a reduced buffer zone has been approved by the California Department of Public Health, this Order may be reopened.

19. A 150-foot buffer zone shall be maintained between any spring or domestic well and a 100-foot buffer zone shall be maintained between any irrigation well and the wetted area produced during irrigations with recycled water. After adoption of this Order, if a reduced buffer zone has been approved by the California Department of Public Health, this Order may be reopened.

20. A 150-foot buffer zone shall be maintained between any domestic or irrigation well and impoundment of recycled water.

21. A 25-foot buffer zone shall be maintained between the Use Area and all property boundaries. If, after adoption of this Order, a reduced buffer zone has been approved by the California Department of Public Health, this Order may be reopened.

22. A 30-foot buffer zone shall be maintained between the Use Area and all public roads. If, after adoption of this Order, a reduced buffer zone has been approved by the California Department of Public Health, this Order may be reopened.

23. The perimeter of the Use Area shall be graded to prevent ponding along public roads or other public areas.

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V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

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

1. **Un-ionized Ammonia.** Un-ionized ammonia to be present in amounts that adversely affect beneficial uses nor to be present in excess of 0.025 mg/L (as N).

2. **Bacteria.** The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than 10 percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL.

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

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

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

6. **Dissolved Oxygen:**

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

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

   c. The dissolved oxygen concentration to be reduced below 5.0 mg/L at any time.

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

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

9. **pH.** The pH to be depressed below 6.5 nor raised above 8.3.

10. **Pesticides:**

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

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

11. Radioactivity:

a. Radionuclides to be present in concentrations that are deleterious 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.

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

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

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

15. Taste and Odors. Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or to domestic or municipal water supplies.

16. Temperature. The natural temperature to be increased by more than 5°F. Compliance to be determined based on the difference in temperature at RSW-001 and RSW-002.

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

18. Turbidity. The turbidity to increase as follows:

a. More than 2 Nephelometric Turbidity Units (NTU) where natural turbidity is less than 1 NTU;

b. More than 1 NTU where natural turbidity is between 1 and 5 NTUs;

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

d. More than 10 NTU where natural turbidity is between 50 and 100 NTUs; nor

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

B. Groundwater Limitations

Groundwater limitations must implement the narrative water quality objectives contained in the Basin Plan and as such are a required part of this Order. The

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Discharger, pursuant to schedules established herein, develops information pertinent to the setting by the Regional Water Board of numeric groundwater limitations specific to this discharge in a subsequent order. Groundwater degradation from waste constituents shall be minimized to the extent feasible.

The Central Valley Water Board is currently implementing the CV-SALTS initiative to develop a Basin Plan amendment that will establish a salt and nitrate management plan for the Central Valley. Through this effort the Basin Plan will be amended to define how the narrative water quality objectives are to be interpreted for the protection of agricultural use. If new information or evidence indicates that groundwater limitations different than those prescribed herein are appropriate, this Order will be reopened to incorporate such limits

Release of waste constituents from any portion of the Facility shall not cause groundwater to contain waste constituents in concentrations greater than that listed below:

a. Total coliform organisms over any 7-day period of 2.2 Most Probable Number per 100 mL.

b. Chemical constituents in concentrations that adversely affect beneficial uses, such as nitrate-nitrogen above 10 mg/L.

c. Toxic constituents in concentrations that produce detrimental physiological responses in human, plant, or animal life.

d. Radionuclides in concentrations that are deleterious to human, plant, animal, or aquatic life or which results in accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life.

Compliance with the above groundwater limitations and unreasonable degradation shall be determined by the Central Valley Water Board in accordance with the “Policy for Application of Water Quality Objectives” in Chapter IV of the Basin Plan.

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VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions (federal NPDES standard conditions from 40 CFR Part 122) included in Attachment D of this Order.

2. The Discharger shall comply with the following provisions:

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

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

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

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

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

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

The causes for modification include:

- *New regulations.* New regulations have been promulgated under section 405(d) of the CWA, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.
- *Land application plans.* When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.
- *Change in sludge use or disposal practice.* Under 40 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 Central Valley Water Board may review and revise this Order at any time upon application of any affected person or the Central Valley Water Board's own motion.

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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 Central Valley 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. 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.

i. Safeguard to electric power failure:

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

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

iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Central Valley Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Central Valley Water Board that the existing safeguards are inadequate, provide to the Central Valley 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 Central Valley Water Board, become a condition of this Order.

j. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under the Central Valley Water Board Standard Provision contained in section VI.A.2.i of this Order.

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 Central Valley Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental

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discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

k. A publicly owned treatment works whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Central Valley 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 Central Valley Water Board may extend the time for submitting the report.

l. 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.

m. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13350, 13385, 13386, and 13387.

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

o. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, instantaneous minimum effluent limitation, instantaneous maximum effluent limitation, maximum daily effluent limitation, acute toxicity effluent limitation, or receiving water limitation contained in this Order, the Discharger shall notify the Central Valley 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 Central Valley Water Board waives confirmation. The written

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notification shall include the information required by the Standard Provision contained in Attachment D section V.E.1. [40 CFR 122.41(l)(6)(i)].

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

q. 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 Central Valley 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 Central Valley 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 Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

B. Monitoring and Reporting Program Requirements

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

C. Special Provisions

1. Reopener Provisions

a. Conditions that necessitate a major modification of a permit are described in 40 CFR 122.62, including, but not limited to:

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

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

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

c. Mercury. If mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order shall be reopened and the interim mass effluent limitation modified (higher or lower) or an effluent concentration limitation imposed. If the Central Valley Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to reevaluate the interim mercury mass loading limitation(s) and the need for a mercury offset program for the Discharger.

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

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

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

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Chronic Whole Effluent Toxicity. For compliance with the Basin Plan's narrative toxicity objective and the narrative chronic whole effluent toxicity effluent limitation in this Order, this Order requires the Discharger to conduct chronic whole effluent toxicity (WET) testing, as specified in the Monitoring and

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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 exhibits toxicity, as described in subsection ii below, the Discharger is required to initiate a TRE in accordance with an approved TRE Workplan, and take actions to mitigate the impact of the discharge and prevent recurrence 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 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 Workplan and includes procedures for accelerated chronic toxicity monitoring and TRE initiation.

i. **Initial Investigative TRE Workplan**. By <90 days of the effective date of this Order>, the Discharger shall submit to the Central Valley Water Board an Initial Investigative TRE Workplan for approval by the Executive Officer. This should be a one to two page document including, at a minimum:

(a) A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of effluent toxicity, effluent variability, and treatment system efficiency;

(b) A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and

(c) A discussion of who will conduct the Toxicity Identification Evaluation (TIE), if necessary (e.g., an in-house expert or outside contractor).

ii. **Accelerated Monitoring and TRE Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, the Discharger shall initiate accelerated monitoring as required in the Accelerated Monitoring Specifications. The Discharger shall initiate a TRE to address effluent toxicity if any WET testing results exceed the numeric toxicity monitoring trigger during accelerated monitoring.

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

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

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

(a) If the results of four (4) consecutive accelerated monitoring tests do not exceed the monitoring trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, notwithstanding the accelerated monitoring results, if there is evidence 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 (e.g., temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

(c) If the result of any accelerated toxicity test exceeds the monitoring trigger, the Discharger shall cease accelerated monitoring and 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 any test result exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Central Valley Water Board including, at minimum:

(1) Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a 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.

Within sixty (60) days of notification by the laboratory of the test results, the Discharger shall submit to the Central Valley Water Board a TRE Workplan for approval by the Executive Officer. The TRE Workplan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Workplan must be developed in accordance with USEPA guidance[1]

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

b. Groundwater Limitation Study. Order No R5-2006-0092 required the Discharger to conduct a groundwater limitation study that required the following:

i. Determine the spacial extent of groundwater affected by, and that could be affected by, the discharge.

ii. Determine the types of crops that are, and could potentially be grown, and any other potential beneficial uses of groundwater that could be affected by the discharge.

iii. Determine salinity source control measures that can be implemented to reduce the salinity of the WWTF discharge and the salinity of the percolating groundwater.

iv. Evaluate and propose, with supporting documentation, appropriate numeric groundwater quality objectives for groundwater that could be affected by the WWTF discharge.

v. Reevaluate the irrigation management plan to ensure wastewater application will comply with resulting numerical groundwater quality objectives.

To date, the Discharger has submitted information to adequately address items i and ii. A salinity minimization plan was submitted in July 2011; however, the plan did not identify salinity source control measures that can be implemented to reduce the salinity of the WWTF discharge and the salinity of the percolating groundwater. Therefore, Special Provision VI.C.3.a requires the submittal of a Salinity Evaluation and Minimization Plan.

The Discharger submitted a revised schedule for installation of additional groundwater monitoring wells in an October 2012 letter. The revised schedule indicated the additional wells would be installed and an installation report submitted by 29 February 2013. As of 1 May 2013, the Authority has not installed the approved additional groundwater monitoring wells. **By 1 January 2014**, an approved groundwater monitoring well network shall be in place, including any new wells needed to complete the Groundwater Limitation Study. **Within 18 months following the installation of the additional monitoring wells**, the Discharger shall submit information to adequately address items iv and v above. Data collected from a minimum of four quarterly groundwater monitoring events (following installation of the additional groundwater monitoring wells) shall be included in the study.

c. Best Practical Treatment or Control (BPTC). If the groundwater monitoring results from the Groundwater Limitation Study show that the discharge of waste is threatening to cause or has caused groundwater to contain waste constituents in concentrations statistically greater than the proposed limits, the Discharger shall submit, **by <48 months following adoption of this Order>**, a BPTC

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Evaluation Work Plan that sets forth a scope and schedule for a systematic and comprehensive technical evaluation of each component of the facilities' waste management system to determine best practicable treatment or control for each of the waste constituents of concern. The work plan shall include a preliminary evaluation of each component of the waste management system and propose a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed 1 year.

3. Best Management Practices and Pollution Prevention

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

4. Construction, Operation and Maintenance Specifications

a. Ultraviolet Light Disinfection System Operating Specifications. The Discharger shall test the ultraviolet light disinfection between **1 June and 1 August** to verify it is in proper working order and submit the results of the test to the Central Valley Water Board by **1 October**. Once in operation, the Discharger shall maintain an adequate dose for disinfection while discharging when groundwater is within 5 feet of the bottom of the wastewater ponds, within 5 feet of ground surface of cropland where wastewater is applied, or to Sand Creek, unless otherwise approved by DPH.

i. The Discharger shall provide continuous, reliable monitoring of: flow, ultraviolet light transmittance, and ultraviolet light power.

ii. The quartz sleeves and cleaning system components must be visually inspected per the manufacturer's operations manual for physical wear (scoring, solarization, seal leaks, cleaning fluid levels, etc.) and to check the efficacy of the cleaning system.

iii. The lamp sleeves must be cleaned periodically as necessary to meet the requirements.

iv. Lamps must be replaced per the manufacturer's operations manual, or sooner, if there are indications the lamps are failing to provide adequate disinfection. Lamp age and lamp replacement records must be maintained.

v. The Facility must be operated in accordance with an operations and maintenance program that assures adequate disinfection.

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b. Wastewater Pond Operating Requirements.

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

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

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

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

(b) Weeds shall be minimized.

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

(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 **1 April to 30 June** bird nesting season.

iv. The Discharger shall operate and maintain all wastewater ponds and irrigation reservoirs sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. Unless a California-registered civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow).

v. The discharge of waste classified as “hazardous” as defined in section 2521(a) of Title 23, California Code of Regulations (CCR), or “designated”, as defined in section 13173 of the Water Code, to the wastewater ponds is prohibited.

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

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vii. As a means of discerning compliance with Wastewater Pond Operating Requirement b.vi, the dissolved oxygen content in the upper zone (1 foot) of wastewater in ponds shall not be less than 1.0 mg/L.

viii. Ponds shall not have a pH less than 6.5 or greater than 8.3.

ix. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of groundwater limitations.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Sludge/Biosolids Treatment or Discharge Specifications. 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 Facility. Biosolids refer 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 agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 CFR Part 503.

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

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

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

iv. The use, disposal, storage, and transportation of biosolids shall comply with existing federal and state laws and regulations, including permitting

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requirements and technical standards included in 40 CFR Part 503. If the State Water Board and the Central Valley Water Board are given the authority to implement regulations contained in 40 CFR Part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 CFR Part 503 whether or not they have been incorporated into this Order.

v. The Discharger shall comply with Section IX.A. Biosolids of the Monitoring and Reporting Program, Attachment E.

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

vii. **By <180 days of the permit effective date>,** the Discharger shall review and update its existing biosolids use or disposal plan, and submit it to the Central Valley Water Board. The updated plan shall describe at a minimum:

(a) Sources and amounts of biosolids generated annually.

(b) Location(s) of on-site storage and description of the containment area.

(c) Plans for ultimate disposal. For landfill disposal, include the Central Valley Water Board's waste discharge requirement numbers that regulate the particular landfill; the present classification of the landfill; and the name and location of the landfill.

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

c. This Order, and the Monitoring and Reporting Program which is a part of this Order, requires that certain parameters be monitored on a continuous basis. The wastewater treatment plant is not staffed on a full time basis. Permit violations or system upsets can go undetected during this period. The Discharger shall establish an electronic system for operator notification for continuous recording device alarms if not already installed. For existing continuous monitoring systems, the electronic notification system shall be installed within 6 months of adoption of this permit. For systems installed

TENTATIVE ORDER

following permit adoption, the notification system shall be installed simultaneously.

6. Other Special Provisions

a. Increase in Permitted Flow Rate. The design flow rate for treatment at the WWTF is 2.0 mgd. However, a hydraulic and nitrogen balance included in a 30 July 2009, Recycled Water Engineering Report submitted by the Discharger, in response to Provision I. 24 of Order No. R5-2006-0092, indicated that at a flow rate of 2.0 mgd, the Authority does not have a sufficient amount of cropland and would need to discharge to Sand Creek in October and May, which is outside of the allowable time period for discharge to Sand Creek of 1 November through 30 April. The hydraulic and nitrogen balance indicated the Discharger is capable of discharge up to 1.5 mgd without discharging to Sand Creek outside of the permitted time period of 1 November through 30 April. Upon approval by the Executive Officer of an engineering report by the Authority demonstrating (1) the capability to discharge up to 2.0 mgd without discharging outside of the allowable period of discharge to Sand Creek of 1 November through 30 April and/or (2) increased capacity of the wastewater ponds to handle the increased flow, the permitted average dry weather discharge flow shall not exceed 2.0 mgd.

7. Compliance Schedule – Not Applicable

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VII. COMPLIANCE DETERMINATION

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

B. Average Dry Weather Flow Effluent Limitations (Section IV.C.1.d). The average dry weather discharge flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather flow effluent limitations will be determined annually based on the average daily flow over three consecutive dry weather months (e.g., July, August, and September).

C. Total Coliform Organisms Effluent Limitations (Section IV.A.1.e and IV.C.1.c). For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last 7 days. For example, if a sample is collected on a Wednesday, the result from that sampling event and all results from the previous 6 days (i.e., Tuesday, Monday, Sunday, Saturday, Friday, and Thursday) are used to calculate the 7-day median. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 23 per 100 milliliters, the Discharger will be considered out of compliance.

D. Chronic Whole Effluent Toxicity Effluent Limitation (Section IV.A.1.d), Compliance with the accelerated monitoring and TRE provisions of Provision VI.C.2.a shall constitute compliance with the effluent limitation.

E. Use of Ultraviolet Light Disinfection for Discharge to the Wastewater Ponds. Effluent discharged to a wastewater pond shall be disinfected with ultraviolet light to comply with Section IV.C.1.c when the groundwater potentiometric surface map generated from depth to groundwater data collected from the groundwater monitoring well network indicate groundwater is within 5 feet of the bottom of the wastewater pond.

F. Use of Ultraviolet Light Disinfection for Discharge 001 (cropland). Effluent discharged to cropland shall be disinfected with ultraviolet light to comply with Section IV.C.1.c in accordance with Table 8.

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Table 8.Use of Ultraviolet Light Disinfection for Discharge 001 (cropland)

When Depth to Groundwater is Less Than Five Feet Below Ground Surface in This Well:	Ultraviolet Light Disinfection of Effluent Required for Discharge to This Field:
Well MW-A	Field E
Well MW-C	Field D
Well MW-E	Field C
Well MW-F	Field A and B
Well MW-G	Field A and B

G. Priority Pollutant Effluent Limitations. Compliance with effluent limitations for priority pollutants shall be determined in accordance with Section 2.4 (Reporting Requirements) of the State Water Board *Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Esturaries of California Policy,* using sample reporting protocols defined in Attachment A and Attachment E of this Order. For purposes of reporting and administrative enforcement by the Central Valley Water Board and the State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is both greater than the effluent limitation <u>and</u> greater than or equal to the reporting level (RL).

Compliance with effluent limitations for priority pollutants shall be determined in accordance with Section 2.4.5 of the SIP, as follows:

1. Dischargers shall be deemed out of compliance with an effluent limitation, if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

2. Dischargers shall be required to conduct a Pollutant Minimization Program (PMP) in accordance with section 2.4.5.1 of the SIP when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and either:

a. A sample result is reported as detected, but not quantified (DNQ) and the effluent limitation is less than the RL; or

b. A sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL).

3. When determining compliance with an average monthly effluent limitation (AMEL) and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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

4. If a sample result, or the arithmetic mean or median of multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a PMP (as described in section 2.4.5.1), the discharger shall not be deemed out of compliance.

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ATTACHMENT A – DEFINITIONS

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

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

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

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

Best Practicable Treatment of Control (BPTC)
BPTC is a requirement of State Water Resources Control Board Resolution No. 68-16 – "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (referred to as the "Antidegradation Policy"). BPTC is the treatment or control of a discharge necessary to assure that *"(a) a pollution or nuisance will not occur and (b) the highest water quality consistent with the maximum benefit to the people of the State will be maintained."* Pollution is defined in CWC section 13050(l). In general, an exceedance of a water quality objective in the Basin Plan constitutes "pollution".

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

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

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

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

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The daily discharge may be determined by the analytical results of a composite sample taken over the course of 1 day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

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

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

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

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

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

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

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

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

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

Method Detection Limit (MDL)
MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR Part 136, Appendix B.

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

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

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

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

Pollutant Minimization Program (PMP)
Pollutant minimization means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Central Valley Water Board may consider cost effectiveness when establishing the requirements of a PMP. The PMP shall be prepared in accordance with section 2.4.5.1 of the SIP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements of the SIP.

Pollution Prevention
Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product

TENTATIVE ORDER

reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Central Valley Water Board.

Reporting Level (RL)
The RL is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the RL depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied in the computation of the RL.

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

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

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

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

where:

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

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

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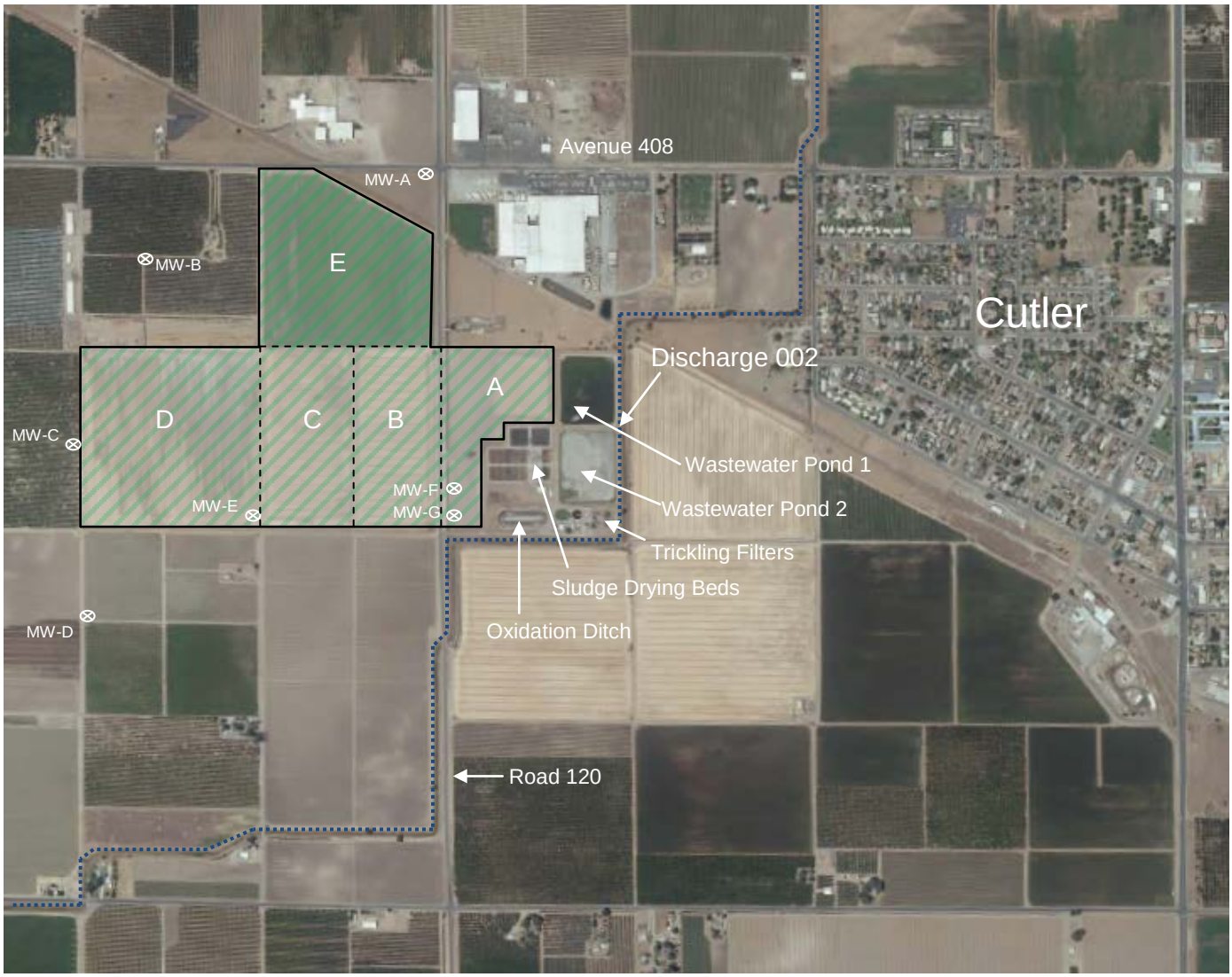
ATTACHMENT B – MAP



Discharge 001

Sand Creek

Monitoring Well

Drawing Reference:	SITE LOCATION MAP	
ORANGE COVE SOUTH U.S.G.S TOPOGRAPHIC MAP 7.5 MINUTE QUADRANGLE ***2012*** ***Not to scale***	**CUTLER-OROSI JOINT POWERS WASTEWATER AUTHORITY** **WASTEWATER TREATMENT FACILITY** **TULARE COUNTY**	N W E S

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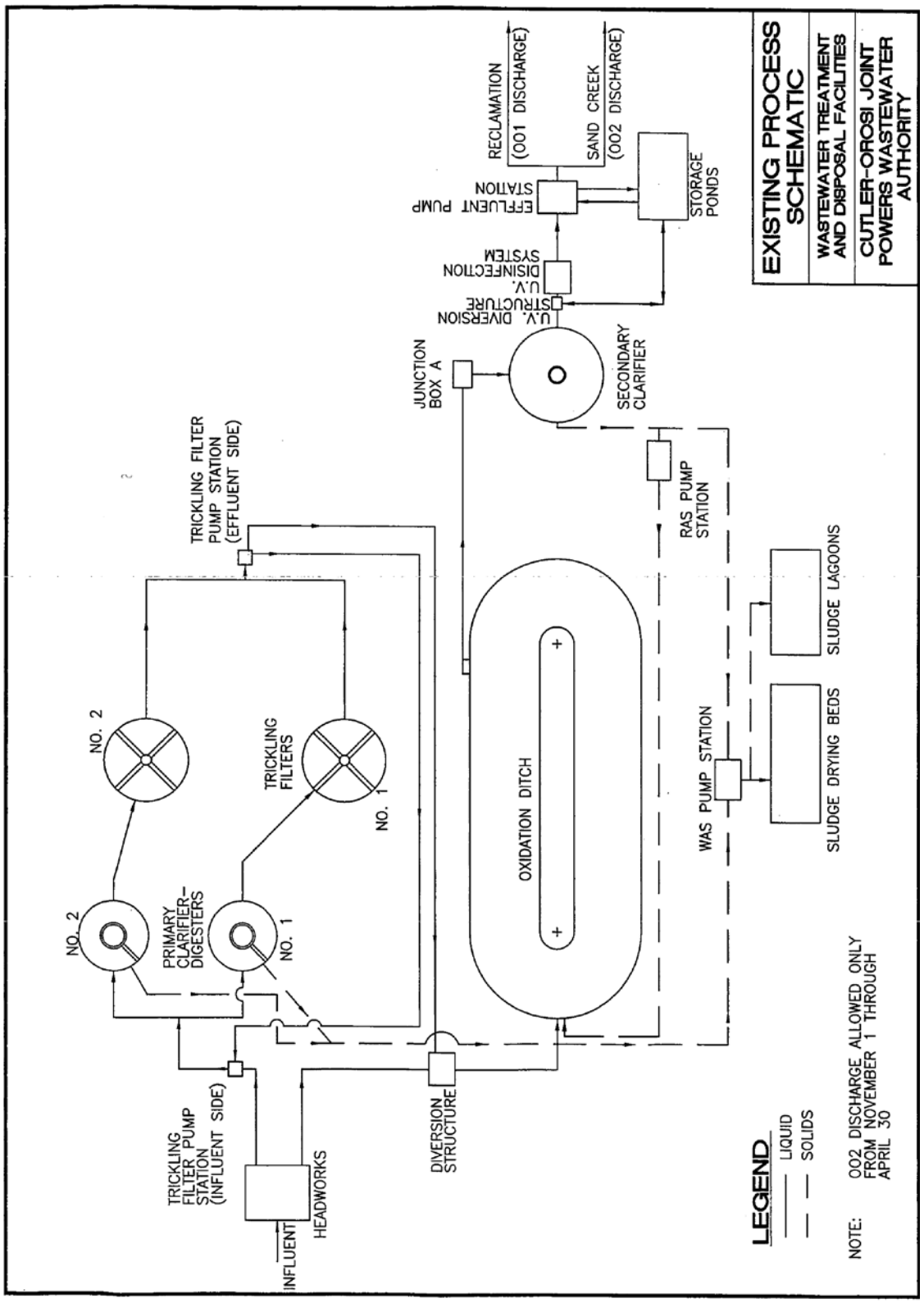
ATTACHMENT C – FLOW SCHEMATIC



TENTATIVE ORDER

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (Water Code) and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR 122.41(a).)

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

TENTATIVE ORDER

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

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

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

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

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

G. Bypass

1. Definitions

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

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

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

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

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

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

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

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

5. Notice

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

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

H. Upset

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

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

TENTATIVE ORDER

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

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

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

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

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

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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

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III. STANDARD PROVISIONS – MONITORING

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

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

IV. STANDARD PROVISIONS – RECORDS

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

TENTATIVE ORDER

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Central Valley Water Board, State Water Board, or USEPA within a reasonable time, any information which the Central Valley 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 Central Valley Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR 122.41(h); Wat. Code, § 13267)

B. Signatory and Certification Requirements

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

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

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

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

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

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

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

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Standard Provisions – Reporting V.B.3 above must be submitted to the Central Valley Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR 122.22(c))

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

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

C. Monitoring Reports

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

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

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

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E. Twenty-Four Hour Reporting

1. The Discharger shall notify the California Emergency Management Agency (formerly the Office of Emergency Services) of any noncompliance that may endanger health or the environment within two (2) hours from the time the Discharger becomes aware of the circumstances. The Discharger shall notify the Central Valley Water Board of the noncompliance by telephone or fax within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided to the Central Valley Water Board within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR 122.41(l)(6)(i))

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

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

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

3. The Central Valley 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 Central Valley 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 that 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

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

H. Other Noncompliance

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

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Central Valley 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))

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Title 40 of the Code of Federal Regulations (CFR), section 122.48 (40 CFR 122.48) requires that all NPDES permits specify monitoring and reporting requirements. California Water Code (Water Code) sections 13267 and 13383 also authorize the Central Valley Water Quality Control Board, Central Valley Region (Central Valley Water Board) to require technical and monitoring reports. This Monitoring and Reporting Program establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

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

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

C. Chemical, bacteriological, and bioassay analyses of any material required by this Order shall be conducted by a laboratory certified for such analyses by the Department of Public Health (DPH). Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Central Valley Water Board. In the event a certified laboratory is not available to the Discharger for any onsite field measurements such as pH, DO, turbidity, temperature, and residual chlorine, such 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 for any onsite field measurements such as pH, DO, turbidity, temperature, and residual chlorine must be kept onsite in the treatment facility laboratory and shall be available for inspection by Central Valley Water Board staff, State Water Resources Control Board (State Water Board) staff, United States Protection Agency (USEPA) staff, and/or their authorized representatives. The Discharger must demonstrate sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform these field measurements. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Central Valley Water Board.

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

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

G. 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.

H. The Discharger shall file with the Central Valley Water Board technical reports on self-monitoring performed according to the detailed specifications contained in this Monitoring and Reporting Program.

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

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II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	A location where a representative sample of the influent into the facility can be collected prior to any plant return flows or treatment processes.
Discharge 001	EFF-001	Treated effluent discharged to cropland
Discharge 002	EFF-002	Treated effluent discharged to Sand Creek
--	RSW-001	Sand Creek, approximately 500 feet upstream of Discharge 002
--	RSW-002	Sand Creek, approximately 500 feet downstream of Discharge 002
--	SPL-001	Source water supply of the communities that the WWTF serves
--	PND-001	Wastewater Pond 1 (North)
--	PND-002	Wastewater Pond 2 (South)
--	MW-A, MW-B, MW-C, MW-D, MW-E, MW-F, MW-G, and all future wells added to the approved network	Groundwater Monitoring Wells
--	BIO-001	Biosolids generated at the WWTF
--	UVS-001	Ultraviolet Light Disinfection System
--	CRP-001	Cropland that receives treated effluent for irrigation

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III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

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

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous	--
Settleable Solids	mL/L	Grab [2]	1/Day	[1]
pH	Standard Units	Grab [2]	1/Day	[1]
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	24-hr Composite [3]	2/Week	[1]
Total Suspended Solids	mg/L	24-hr Composite [3]	2/Week	[1]
Electrical Conductivity @25°C	µmhos/cm	Grab [2]	1/Month	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or an EPA approved Alternate Testing Procedure; where no methods are specified for a given pollutant that meet a specific reporting limit or method performance standard, an alternate method can be approved by the Central Valley Water Board or the State Water Board.

[2] Grab samples shall not be collected at the same time each day to get a complete representation of variations in the influent.

[3] 24-hour flow proportional composite.

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IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated effluent discharged to cropland at EFF-001 as specified in Table E-3 below. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-3. Effluent Monitoring EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous	[1]
Conventional Pollutants				
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	24-hr Composite [2]	2/Week	[1]
Total Suspended Solids	mg/L	24-hr Composite [2]	2/Week	[1]
pH	Standard Units	Grab	1/Day [3, 4]	[1]
Priority Pollutants				
Priority Pollutants and other Constituents of Concern	See Attachment I	See Attachment I	See Attachment I	See Attachment I
Non-Conventional Pollutants				
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Day	[1]
Settleable Solids	ml/L	Grab	1/Day	[1]
Temperature	°C	Grab	1/Day [3, 4]	[1]
Total Coliform Organisms	MPN/100 mL	Grab	1/Day [5]	[1]
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week [3]	[1]
Un-ionized Ammonia, Total (as N)	mg/L	Calculated	1/Week	Calculated
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Week [6]	[1]
Nitrite Nitrogen, Total (as N)	mg/L	Grab	1/Week [6]	[1]
Total Kjeldahl Nitrogen (as N)	mg/L	Grab	1/Week	[1]
Total Organic Nitrogen (as N)	mg/L	Calculated	1/Week	Calculated
Total Nitrogen (as N)	mg/L	Calculated	1/Week	Calculated
Total Dissolved Solids	mg/L	Grab	2/Month	[1]
Chloride	mg/L	Grab	1/Month	[1]
Boron	mg/L	Grab	1/Month	[1]
Total Organic Carbon	mg/L	Grab	1/Quarter	[1]
Oil & Grease	mg/L	Grab	2/Year	[1]
MBAS	µg/L	Grab	2/Year	[1]
Standard Minerals[7]	mg/L	Grab	2/Year	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or an EPA approved Alternate Testing Procedure; where no methods are specified for a given pollutant that meet a specific reporting limit or method performance standard, an alternate method can be approved by the Central Valley Water Board or the State Water Board.

[2] 24-hour flow proportional composite.

[3] pH and temperature shall be recorded at the time of ammonia and un-ionized ammonia sample collection.

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

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log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

[5] Samples for total coliform organisms may be collected at any point following disinfection and only required to be monitored when actively discharging to either wastewater pond and groundwater is less than five (5) feet below the bottom of the ponds or when actively discharging to cropland and groundwater is less than five (5) feet below ground surface of cropland where wastewater is applied.

[6] Monitoring for nitrite and nitrate shall be conducted concurrently.

[7] Standard minerals shall include the following: aluminum, boron, calcium, iron, magnesium, potassium, sodium, chloride, sulfate, manganese, phosphate, total alkalinity (including alkalinity series), and hardness (as $CaCO_3$), and include verification that the analysis is complete (i.e., cation/anion balance).

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B. Monitoring Location EFF-002

1. The Discharger shall monitor treated effluent discharged to Sand Creek at EFF-002 as specified in Table E-4 below. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-4. Effluent Monitoring EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous	[1]
Conventional Pollutants				
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	24-hr Composite [2]	2/Week	[1]
Total Suspended Solids	mg/L	24-hr Composite [2]	2/Week	[1]
pH	Standard Units	Grab	1/Day [3, 4]	[1]
Priority Pollutants				
Copper	mg/L	Grab	1/Month	[1,9]
Priority Pollutants and Other Constituents of Concern	See Attachment I	See Attachment I	See Attachment I	See Attachment I
Non-Conventional Pollutants				
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Day	[1]
Settleable Solids	ml/L	Grab	1/Day	[1]
Temperature	°C	Grab	1/Day [3, 4]	[1]
Total Coliform Organisms	MPN/100 mL	Grab	1/Day [5]	[1]
Turbidity	NTU[6]	Grab	1/Day	[1]
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week [3]	[1]
Un-ionized Ammonia, Total (as N)	mg/L	Calculated	1/Week	Calculated
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Week [7]	[1]
Nitrite Nitrogen, Total (as N)	mg/L	Grab	1/Week [7]	[1]
Total Kjeldahl Nitrogen (as N)	mg/L	Grab	1/Week	[1]
Total Organic Nitrogen (as N)	mg/L	Calculated	1/Week	Calculated
Total Nitrogen (as N)	mg/L	Calculated	1/Week	Calculated
Total Dissolved Solids	mg/L	Grab	2/Month	[1]
Chloride	mg/L	Grab	1/Month	[1]
Boron	mg/L	Grab	1/Month	[1]
Hardness (as $CaCO_3$)	mg/L	Grab	1/Month	[1]
Total Organic Carbon	mg/L	Grab	1/Quarter	[1]
Oil & Grease	mg/L	Grab	2/Year	[1]
MBAS	µg/L	Grab	2/Year	[1]
Standard Minerals[8]	mg/L	Grab	2/Year	[1]
Whole Effluent Toxicity (see Section V. below)	--	--	--	--

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[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or an EPA approved Alternate Testing Procedure; where no methods are specified for a given pollutant that meet a specific reporting limit or method performance standard, an alternate method can be approved by the Central Valley Water Board or the State Water Board.

[2] 24-hour flow proportional composite.

[3] pH and temperature shall be recorded at the time of ammonia and un-ionized ammonia sample collection.

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

[5] Samples for total coliform organisms may be collected at any point following disinfection.

[6] Nephelometric Turbidity Units

[7] Monitoring for nitrite and nitrate shall be conducted concurrently.

[8] Standard minerals shall include the following: aluminum, boron, calcium, iron, magnesium, potassium, sodium, chloride, sulfate, manganese, phosphate, total alkalinity (including alkalinity series), and hardness (as $CaCO_3$), and include verification that the analysis is complete (i.e., cation/anion balance).

[9] The Reporting Limit shall be any of the Minimum Levels listed in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP) that are below the effluent limitations specified in Section IV.A.1.a, Table 6 of this Order.

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V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

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

1. *Monitoring Frequency* – The Discharger shall perform **twice per year (2/year)** acute toxicity testing, concurrent with effluent ammonia sampling. If discharge has not occurred to Sand Creek during the four years following adoption of this Order, the Discharger shall perform twice per year acute toxicity testing of Discharge 001 (cropland) beginning in year five.

2. *Sample Types* –Samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location EFF-002.

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

4. *Test Type and Duration* – Test type shall be static renewal or flow-through, and the test duration shall be 96 hours.

5. *Dilutions* – The acute toxicity testing shall be performed using undiluted effluent.

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

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

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

1. *Monitoring Frequency –* The Discharger shall perform **twice per year (2/year)** three species chronic toxicity testing with at least one sample collected prior to discharge to Sand Creek. If discharge has not occurred to Sand Creek during the four years following adoption of this Order, the Discharger shall perform twice per year chronic toxicity testing of Discharge 001 (cropland) beginning in year five.

2. *Sample Types* – Effluent samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location EFF-002. The receiving water control shall be a grab sample obtained from the RSW-001 sampling location, as identified in this Monitoring and Reporting Program.

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

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

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

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

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

7. *Dilutions* – For regular and accelerated chronic toxicity monitoring, it is not necessary to perform the test using a dilution series. The test may be performed using 100% effluent and two controls. For TRE monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-5, below. The receiving water control shall be used as a diluent (unless the receiving water is toxic).

Table E-5. Chronic Toxicity Testing Dilution Series

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

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

   a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the *Short-term Methods for Estimating the*

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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 the Special Provision at section VI. C.2.a.iii. of the Order.)

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

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

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

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

b. 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 Toxicity Reduction Evaluation (TRE).

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

3. TRE Reporting. Reports for TREs shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Workplan.

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

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

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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.

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VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Wastewater Pond Monitoring

1. Monitoring Locations PND-001 and PND-002

The Discharger shall monitor the wastewater ponds at monitoring locations PND-001 and PND-002 as follows:

Table E-6. Wastewater Pond Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow into each pond[1]	mgd	Estimate	1/Day
Freeboard	0.1 feet	Visual	1/Day
Visual Observation[2]	--	Visual	1/Week[3]
Dissolved Oxygen[4]	mg/L	Grab	1/Week[3]

1 The Discharger shall report whether or not the effluent was disinfected by ultraviolet light prior to discharge due to groundwater elevation.
2 Visual observations shall include the presence of weeds, scum, odors or solids build-up on the ponds.
3 Frequency shall be daily when in noncompliance with Wastewater Pond Operating Requirements (section VI.C.4.b of this Order) and shall continue until at least one week after return to compliance.
4 Samples shall be collected from the upper one-foot of each pond near the outlet between 0800 and 0900 hours.

VII. RECLAMATION MONITORING REQUIREMENTS

A. Cropland Monitoring

1. Monitoring Location CRP-001

The Discharger shall monitor irrigation operations at monitoring location CRP-001 as follows:

Table E-7. Cropland Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Effluent Applied	mgd	Meter	1/Day
Location and Type of Crop Where Effluent Applied[1]	--	Observation	1/Day
Rainfall	inches	Observation	1/Day
Effluent Application Rate	gal/acre/day	Calculated	1/Day
BOD_5 Loading Rate	lbs/acre/day	Calculated	1/Day
Total Nitrogen Loading Rate	lbs/acre/month	Calculated	1/Month
Hydraulic/Nutrient Balance[2]	varies	Calculated	1/Year

1. The Discharger shall identify which field (A,B,C,D, and/or E) that received effluent and whether or not the effluent was disinfected by ultraviolet light prior to discharge due to groundwater elevation.
2. The hydraulic/nutrient balance shall include the total water application to cropland, including treated effluent and other irrigation water; the total nutrient loading from wastewater, sludges, and chemical fertilizers; and amount of nutrient removed through harvest of the crop.

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VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location RSW-001

1. The Discharger shall monitor Sand Creek at RSW-001 as follows:

Table E-8a. Receiving Water Monitoring Requirements RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Estimate	1/Day[1]	[2]
Dissolved Oxygen	mg/L	Grab	1/Week[1]	[2]
pH	Standard Units	Grab	1/Week[1]	[2]
Temperature	°C	Grab	1/Week[1]	[2]
Turbidity	NTU	Grab	1/Week[1]	[2]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week[1]	[2]
Fecal Coliforms	MPN/100 mL	Grab	1/Week[1]	[2]
Hardness (as $CaCO_3$)	mg/L	Grab	1/Month[3]	[2]
Ammonia (as N)	mg/L	Grab	1/Month[3,4]	[2]
Un-ionized Ammonia (as N)	mg/L	Grab	1/Month[3,4]	[2]
Priority Pollutants and other Constituents of Concern	See Attachment I	See Attachment I	See Attachment I	See Attachment I

[1] Samples only need to be collected from RSW-001 when there is flow in Sand Creek AND discharge is occurring at Discharge 002.
[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or an EPA approved Alternate Testing Procedure; where no methods are specified for a given pollutant that meet a specific reporting limit or method performance standard, an alternate method can be approved by the Central Valley Water Board or the State Water Board.
[3] Samples only need to be collected between 1 November through 30 April and only when there is flow in Sand Creek OR discharge is occurring at Discharge 002.
[4] Temperature, pH, and hardness shall be collected concurrently with ammonia and un-ionized ammonia.

B. Monitoring Location RSW-002

1. The Discharger shall monitor Sand Creek at RSW-002 as follows:

Table E-8b. Receiving Water Monitoring Requirements RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	1/Week[1]	[2]
pH	Standard Units	Grab	1/Week[1]	[2]
Temperature	°C	Grab	1/Week[1]	[2]
Turbidity	NTU	Grab	1/Week[1]	[2]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week[1]	[2]

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Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Fecal Coliforms	MPN/100 mL	Grab	1/Week[1]	[2]
Ammonia (as N)	mg/L	Grab	1/Month[1,3]	[2]
Un-ionized Ammonia (as N)	mg/L	Grab	1/Month[1,3]	[2]

[1] Samples shall be collected from RSW-002 when there is flow in Sand Creek AND discharge is occurring at Discharge 002. Samples shall be collected at approximately the same time as samples collected at RSW-001.
[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or an EPA approved Alternate Testing Procedure; where no methods are specified for a given pollutant that meet a specific reporting limit or method performance standard, an alternate method can be approved by the Central Valley Water Board or the State Water Board.
[3] Temperature, pH, and hardness shall be collected concurrently with ammonia and un-ionized ammonia.

2. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-002. Notes on receiving water conditions shall be summarized in the monitoring reports. Attention shall be given to the presence of:

I. Floating or suspended matter
II. Visible films, sheens, or coatings
III. Discoloration
IV. Bottom Deposits
V. Fungi, slime, or objectionable odors
VI. Aquatic life
VII. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in monthly monitoring reports. The Discharger shall include in each monthly monitoring report the times when discharge to Sand Creek (Discharge 002) occurred and a narrative description of upstream flow conditions at the time(s) of discharge (i.e., approximate depth of flow).

C. Monitoring Location MW-A, MW-B, MW-C, MW-D, MW-E, MW-F, MW-G, and All Future Wells Added to the Approved Network

1. Prior to construction and/or beginning a sampling program of any new groundwater monitoring wells, the Discharger shall submit plans and specifications to the Central Valley Water Board for approval. Once installed, all new wells shall be added to the monitoring network (which currently consists of Monitoring Wells MW-A through MW-G) and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved EPA methods. Water table elevations shall be calculated to determine groundwater gradient and direction of flow.

2. Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the

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nearest 0.01 feet. Groundwater monitoring at MW-A through MW-G, and any new groundwater monitoring wells shall include, at a minimum, the following:

Table E-8c. Groundwater Monitoring Requirements

Parameter[1]	Units	Sample Type	Minimum Sampling Frequency[1]	Required Analytical Test Method
Depth to Groundwater	±0.01 feet	Measurement	1/Month	--
Groundwater Elevation [2]	±0.01 feet	Calculated	1/Month	--
Gradient	feet/feet	Calculated	1/Month	--
Gradient Direction	degrees	Calculated	1/Month	--
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	[3]
pH	standard units	Grab	1/Quarter	[3]
Total Coliform Organisms	MPN/100 mL	Grab	1/Quarter	[3]
Total Nitrogen	mg/L	Calculated	1/Quarter	Calculated
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	[3]
Total Kjeldahl Nitrogen	mg/L	Grab	1/Quarter	[3]
Arsenic	mg/L	Grab	1/Quarter	[3]
Standard Minerals [4]	mg/L	Grab	1/Quarter	[3]

[1] Following completion of the Groundwater Evaluation Study required by Provision VI.C.2.b, and subject to Executive Officer approval, the Discharger may submit a written request with a technical justification to reduce the groundwater monitoring requirements.

[2] Groundwater elevation shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well. The groundwater elevation shall be used to calculate the direction and gradient of groundwater flow, which must be reported.

[3] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or an EPA approved Alternate Testing Procedure; where no methods are specified for a given pollutant that meet a specific reporting limit or method performance standard, an alternate method can be approved by the Central Valley Water Board or the State Water Board.

[4] Standard minerals shall include the following: aluminum, boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphate, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance). Samples collected for metals shall be filtered with a 0.45 micron filter prior to preservation, digestion, and analysis.

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IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

1. Monitoring Location BIO-001

a. A composite sample of sludge shall be collected once over the life of the permit at Monitoring Location BIO-001 in accordance with EPA's *POTW Sludge Sampling and Analysis Guidance Document*, August 1989, and tested for priority pollutants listed in 40 CFR Part 122, Appendix D, Tables II and III (excluding total phenols).

b. A composite sample of sludge shall be collected annually at Monitoring Location BIO-001 in accordance with USEPA's *POTW Sludge Sampling and Analysis Guidance Document*, August 1989, and tested for the metals listed in Title 22.

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

B. Water Supply Monitoring

2. Monitoring Location SPL-001

The Discharger shall monitor the source water supply of the communities that the WWTF serves at SPL-001 as follows. Sampling stations shall be established where representative samples of the municipal water supply can be obtained. Publically available data may be used in lieu of the monitoring established in Table E-9 below to demonstrate the average quality of the water supply.

Table E-9. Source Water Supply Monitoring Requirements

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

[1] If the water supply is from more than one source, the total dissolved solids and electrical conductivity shall be reported as a flow-weighted average and include copies of supporting calculations.

[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or an EPA approved Alternate Testing Procedure; where no methods are specified for a given pollutant that meet a specific reporting limit or method performance standard, an alternate method can be approved by the Central Valley Water Board or the State Water Board.

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

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C. Ultraviolet Light Disinfection System

1. Monitoring Location UVS-001

When: (1) discharge is occurring to either of the wastewater ponds and groundwater is within five feet of the bottom of either wastewater pond; (2) discharge is occurring to cropland (Discharge 001) and groundwater is within five feet of ground surface of that cropland; OR (3) discharge is occurring to Sand Creek, the Discharger shall monitor the ultraviolet light disinfection system at UVS-001 as follows:

Table E-10. Ultraviolet Light Disinfection System Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Annual System Test[1]	--	--	1/year
Flow	mgd	Meter	Continuous [2]
Number of ultraviolet light banks in operation	Number	Meter	Continuous [2]
Ultraviolet Light Transmittance	Percent (%)	Meter	Continuous [2]
Ultraviolet Light Power Setting	Percent (%)	Meter	Continuous [2]
Ultraviolet Light Dose [2]	MW-sec/cm [3]	Calculated	Continuous [2]

[1] The annual system test shall be conducted between 1 June and 1 August to verify the ultraviolet light disinfection system is in proper working order. The results of the test shall be submitted to the Central Valley Water Board by 1 October.

[2] For continuous analyzers, the Discharger shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation.

[3] Report daily minimum ultraviolet light dose, daily average ultraviolet light dose, and weekly average ultraviolet light dose. For the daily minimum ultraviolet light dose, also report associated number of banks, gallons per minute per lamp, and ultraviolet light transmittance used in the calculation. If effluent discharge has received less than the minimum ultraviolet light dose and is not diverted from discharging to Sand Creek, report the duration and dose calculation variables associated with each incident.

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X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

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

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

4. The Discharger shall report to the Central Valley 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.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State Water Board or the Central Valley Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal. Upon notification directing the Discharger to submit electronic SMRs (eSMRs) and discontinue submitting hard copy SMRs, the Discharger shall maintain sufficient staffing and resources to ensure it submits eSMRs for the effective duration of this Order. This includes provision of training and supervision of individuals (e.g., Discharger personnel or consultant) on how to prepare and submit eSMRs.

2. **For Dischargers that submit hard copy SMRs.** The Discharger shall report in the SMR the results for all monitoring specified in this Monitoring and Reporting Program under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

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

Table E-11. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of the second calendar month following month of sampling
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of the second calendar month following month of sampling
2/Week	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of the second calendar month following month of sampling
1/Week	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of the second calendar month following month of sampling
2/Month	First day of calendar month following permit effective date or on permit effective date if that date is the first day of the month	First day of calendar month through last day of calendar month	First day of the second calendar month following month of sampling
1/Month	First day of calendar month following permit effective date or on permit effective date if that date is the first day of the month	First day of calendar month through last day of calendar month	First day of the second calendar month following month of sampling
1/Quarter	Closest of 1 January, 1 April, 1 July, or 1 October following permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	Submit with monthly report by the first day of the second calendar month following the applicable quarter
2/Year	1 January or 1 July following (or on) permit effective date	1 January through 30 June 1 July through 31 December	Submit with monthly report by 1 August or 1 February
2/Year (Acute and Chronic Toxicity)	1 January or 1 July following (or on) permit effective date	1 January through 30 June 1 July through 31 December	Within 30 days following completion of tests
1/Year	1 January following (or on) permit effective date	1 January through 31 December	Submit with monthly report by 1 February
1/Year (UV Test)	1 June following (or on) permit effective date	1 June through 1 August	Submit with monthly report by 1 October
4/Permit Cycle	1 January 2014 1 January 2015 1 January 2016 1 January 2017	1 January through 31 December 2014 1 January through 31 December 2015 1 January through 31 December 2016 1 January through 31 December 2017	First day of the second calendar month following month of sampling

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4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

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

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

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

   For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

   d. Dischargers are to instruct laboratories to establish calibration standards so that the Minimum Level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve. The Discharger's laboratory(ies) may, as allowed for by the rules governing alterations to minimum level (ML) values in section 2.4.3 of the SIP, employ a calibration standard lower than the ML value in Appendix 4 of the SIP.

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

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

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

6. **Reporting Requirements.** In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible.

   a. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with final effluent limitations or with other waste discharge requirements (e.g., discharge specifications, receiving water limitations, special provisions, etc.).

   b. Reports must clearly show when discharging to EFF-001, EFF-002 or other permitted discharge locations. Reports must show the date and time that the discharge started and stopped at each location.

   c. The highest daily maximum for the month and monthly and weekly averages shall be determined and recorded as needed to demonstrate compliance.

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

7. **Calculation Requirements**. The following shall be calculated and reported in the SMRs:

   a. Annual Average Limitations. For constituents with effluent limitations specified as “annual average” the Discharger shall report the annual average in the June SMR. The annual average shall be calculated as the average of the samples gathered for the calendar year.

   b. Removal Efficiency (BOD_5 and TSS). The Discharger shall calculate and report the percent removal of BOD_5 and TSS in the SMRs. The percent removal shall be calculated as specified in Section VII.A. of the Limitations and Discharge Requirements.

   c. Total Coliform Organisms Effluent Limitations. The Discharger shall calculate and report the 7-day median of total coliform organisms for the effluent. The 7-day median of total coliform organisms shall be calculated as specified in Section VII.C. of the Limitations and Discharge Requirements.

   d. Dissolved Oxygen Receiving Water Limitations. The Discharger shall calculate and report monthly in the self-monitoring report: i) the dissolved

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oxygen concentration, ii) the percent of saturation in the main water mass, and iii) the 95th percentile dissolved oxygen concentration.

e. Turbidity Receiving Water Limitations. The Discharger shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition specified in Section V.A.18.a-e. of the Limitations and Discharge Requirements.

f. Temperature Receiving Water Limitations. The Discharger shall calculate and report the temperature increase in the receiving water based on the difference in temperature at RSW-001 and RSW-002.

8. The Discharger shall submit SMRs in accordance with the following requirements:

a. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS.

b. The Discharger shall attach all laboratory analysis sheets, including quality assurance/quality control information, with all its SMRs (or eSMRs when electronic submittal is required) for which sample analyses were performed.

c. 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.

d. SMRs must be submitted to the Central Valley Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Central Valley Water Quality Control Board
Central Valley Region
NPDES Compliance and Enforcement Unit
1685 ‘‘E’’ Street
Fresno, California 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 Water Board or Central Valley Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

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

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

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

D. Other Reports

1. **Special Study Reports and Plans.** As specified in the Special Provisions contained in section VI of the Order, special studies and plans shall be submitted in accordance with the following reporting requirements.

Table E-12. Reporting Requirements for Special Provisions Studies and Plans

Special Provision	Reporting Requirements
Toxicity Reduction Evaluation Work Plan	**<90 days following adoption of this Order.>**
Toxicity Reduction Evaluation Action Plan	**Within 30 days of notification by the laboratory of any test result exceeding the monitoring trigger during accelerated monitoring.**
Groundwater Limitation Study	**Within 18 months of installation of additional groundwater monitoring wells.**
BPTC Evaluation Work Plan	**By <48 months following adoption of this Order> if groundwater monitoring results indicate discharge is threatening to cause or has caused groundwater degradation.**
Salinity Evaluation and Minimization Plan	**<Within 9 months of adoption of this Order.>**
Updated Biosolids Use or Disposal Plan	**<180 days following adoption of this Order.>**

2. **By <60 days of permit adoption>,** the Discharger shall submit a report outlining Reporting Levels (RLs), method detection limits, and analytical methods for approval. The Discharger shall comply with the monitoring and reporting requirements for CTR constituents as outlined in section 2.3 and 2.4 of the SIP. The maximum RLs for priority pollutant constituents shall be based on the Minimum Levels (MLs) contained in Appendix 4 of the SIP, determined in accordance with Section 2.4.2 and Section 2.4.3 of the SIP. In accordance with Section 2.4.2 of the SIP, when there is more than one ML value for a given

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substance, the Central Valley Water Board shall include as RLs, in the permit, all ML values, and their associated analytical methods, listed in Appendix 4 that are below the calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the Central Valley Water Board shall select as the RL, the lowest ML value, and its associated analytical method, listed in Appendix 4 for inclusion in the permit. Table I-1 (Attachment I) provides required maximum reporting levels in accordance with the SIP.

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

4. Annual Operations Report. By 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 Facility.

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

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

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

e. The Discharger may also be requested to submit an annual report to the Central Valley 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.

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ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

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

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	5D540132001
Discharger	Cutler-Orosi Joint Powers Wastewater Authority
Name of Facility	Wastewater Treatment Facility
Facility Address	40401 Road 120
	Cutler, California 93615
	Fresno County
Facility Contact, Title and Phone	Leonard Encinas, Chief Plant Operator, 559-528-2504
Authorized Person to Sign and Submit Reports	Leonard Encinas, Chief Plant Operator, 559-528-2504
Mailing Address	SAME
Billing Address	SAME
Type of Facility	POTW
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	A
Pretreatment Program	No
Reclamation Requirements	Yes
Facility Permitted Flow	1.5 mgd year-round at Discharge 001 (cropland). 2.0 mgd year-round at Discharge 001 (cropland) once Special Provision VI.C.6.a is satisfied. 2.0 mgd at Discharge 002 from 1 November through 30 April each year.
Facility Design Flow	2.0 mgd
Watershed	Tulare-Buena Vista Lakes
Receiving Water	Sand Creek and First Encountered Groundwater
Receiving Water Type	Inland Surface Water

A. Cutler-Orosi Joint Powers Wastewater Authority (hereinafter Discharger) is the owner and operator of the wastewater treatment facility (hereinafter Facility), a publically owned treatment works.

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

B. The Facility discharges wastewater to Sand Creek, a water of the United States, and was regulated by Order No. R5-2006-0092 which was adopted on 21 September 2006 and expired on 21 September 2011. The terms and conditions of Order R5-2006-0092 were administratively continued on 20 September 2011 and remained in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.

C. The Discharger filed a report of waste discharge and submitted an application for renewal of its WDRs and NPDES permit on 25 March 2011. The Authority was requested to submit application forms signed by the appropriate Facility personnel on 15 April 2011. The appropriately signed forms were received on 12 September 2011. A site visit was conducted on 7 March 2012, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The Discharger provides sewerage service for the communities of Cutler, Orosi, East Orosi, Yettem, Seville, and Sultana and serves a population of approximately 15,700. The design daily average flow capacity of the Facility is 2.0 million gallons per day (mgd).

A. Description of Wastewater and Biosolids Treatment or Controls

The WWTF includes: raw wastewater screening units; an influent pump station; trickling filter treatment train consisting of two primary clarifiers, two trickling filters, and a recirculation pump station; an oxidation ditch treatment train consisting of an oxidation ditch, secondary clarifier, and return and waste activated sludge pump stations; an ultraviolet light disinfection system (the WWTF does not utilize chlorine for disinfection); an effluent pump system; unlined wastewater ponds; cropland for application of treated wastewater; and an outlet structure for discharge of treated effluent to either ponds, cropland, or Sand Creek, a water of the United States, and a tributary to the Tule River within Tulare-Buena Vista Lakes Watershed. The design flow rate for treatment capacity for the WWTF is 2.0 mgd.

Raw wastewater is initially split between the trickling filter treatment train and the oxidation ditch treatment train. The trickling filter treatment train typically handles a fixed flow of 0.5 mgd. However, effluent from the trickling filter treatment train is directed to the head of the oxidation ditch treatment train. Therefore, the oxidation ditch treatment train handles the entire flow of the WWTF. Treated wastewater is discharged to any of the following: two unlined wastewater ponds, cropland, or Sand Creek. The two unlined wastewater ponds allow for storage, percolation, and evaporation of the treated effluent and each have a capacity of 10.75 million gallons. Treated effluent in the two unlined wastewater ponds can also be discharged to either cropland or Sand Creek.

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There are two wastewater discharge locations, identified as Discharge 001 (discharge to cropland) and Discharge 002 (discharge to Sand Creek between 1 November and 30 April). Discharge 001 consists of 118.8 acres of double-cropped sudan grass and winter wheat. The cropland is divided into five sections identified as A, B, C, D, and E. The land application area is owned by the Discharger and the Discharger is responsible for wastewater application; however, planting and harvesting of the crops is contracted to a local farmer. The Discharger owns 20 additional acres of cropland that could receive WWTF effluent if conveyance piping were to be installed.

In addition to the two unlined wastewater ponds, there are 12 unlined sludge drying beds, four lined sludge drying beds (Deskins; constructed in 2010), and two unlined dried sludge storage beds at the site. The 12 unlined sludge drying beds and two unlined dry sludge storage beds are no longer used. The four lined sludge drying beds are currently used to dry sludge and skimmings from the secondary clarifier. Dried sludge is ultimately hauled off-site to a landfill or composting facility.

In the event that the elevation of groundwater is within five feet of ground surface where wastewater is applied or within five feet of the bottom of the wastewater ponds, or discharge is to Sand Creek, the treated effluent is disinfected with ultraviolet light. The direction of groundwater flow is primarily to the southwest. Attachment B provides a map of the area around the WWTF. Attachment C provides a flow schematic of the WWTF.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 19, T16S, R24E, MDB&M, as shown in Attachment B, a part of this Order.

2. Treated municipal wastewater is discharged at Discharge Point No. 001 to cropland, and ultimately first encountered groundwater in Section 24, T16S, R24E, MDB&M and Discharge Point No. 002 to Sand Creek, a water of the United States and a tributary to the Tule River at a point latitude 36° 31’ 23” N and longitude 119° 18’ 12” W.

3. The cropland that receives Discharge No. 001 consists of 118.8 acres of fodder; fiber; and seed crops, primarily sudan grass in the summer and wheat or occasionally natural clover in the winter.

4. Groundwater underlying the facility and cropland is in the Detailed Analysis Unit 239 of the Kings Basin Hydrologic Unit.

5. Sand Creek is an intermittent stream that carries local storm water runoff southerly to Cottonwood Creek, Cross Creek, and ultimately the Tule River. Sand Creek is usually dry during the summer. Maximum flow capacity is approximately 500 cubic feet per second (cfs), though flows generally do not exceed 5 to 10 cfs. Sand Creek is referred to as a Valley Floor Water in the Water Quality Control Plan for the Tulare Lake Basin, Second Edition, revised January 2004 (Basin Plan).

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

Effluent limitations and Discharge Specifications contained in Order No. R5-2006-0092 for discharges from Discharge Point No. 001 and No. 002 and representative monitoring data from the term of Order No. R5-2006-0092 are summarized in the following table. Discharge did not occur to Sand Creek and groundwater was not within 5 feet of ground surface of cropland where wastewater is applied or the bottom of the wastewater ponds during the term of Order No. R5-2006-0092.

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (From Jan 2008 To Dec 2010)		
		Average Monthly	Average Weekly	Maximum Daily	Lowest Daily Discharge	Highest Daily Discharge	Long-Term Average Discharge
Flow	mgd	--	--	2.0	1.03	1.28	1.17
Settleable Solids	mL/L	0.1[1]	--	0.5	0.1	0.1	0.1
pH	std. unit	--	--	6.5-8.3	7.2	7.7	7.6
Total Coliform[2]	MPN/100mL	--	23[3]	240	1,350	1,600	1,593
Acute Toxicity	% survival	--	--	[4]	[5]	[5]	[5]
Chronic Toxicity	varies	--	--	non-toxic	[6]	[6]	[6]
BOD_5	mg/L	30	45[7]	60	1.0	51.1	6.7
TSS	mg/L	30	45[7]	60	4	87	10
EC	µmhos/cm	--	--	[8]	697	845	789
Chloride	mg/L	--	--	175	56	113	68
Boron	mg/L	--	--	1	0.1	0.3	0.1
Un-ionized Ammonia	mg/L	--	--	0.025[9]	ND	0.6	0.1

1. Average monthly limit for Discharge 001 is 0.2 mL/L.
2. Total coliform effluent limit only applicable when: (1) discharge occurring at Discharge 001 and groundwater elevation is within 5 feet of the bottom of the wastewater ponds or within 5 feet of ground surface of the land application area, and (2) anytime discharge is occurring at Discharge 002.
3. 7-sample median limitation.
4. Survival of aquatic organisms in 96-hour bioassay of undiluted wastewater shall be no less than 70%, minimum for any one bioassay and 90%, median for any three consecutive bioassays.
5. One sample collected in August 2008. 100% survival in lab control and effluent.
6. One sample collected in January 2011 for test species Pimephales Premelas: NOEC = 75% and IC_{25} = 79.91%. For test species Cerid Daphnia Dubia: NOEC = 75% and IC_{25} = 84.18%. For test species Selenastrum Capricornutum: NOEC = <12.50% and IC_{25} = 46.59%.
7. No average weekly limit for Discharge 001.
8. The maximum EC (at 25°C) of Discharge 001 and 002 shall not exceed the source water EC (at 25°C) plus 500 µmhos/cm, as calculated based on the most recent quarterly source water sampling, or a maximum of 1,000 µmhos/cm, whichever is less. The source water EC shall be determined as a weighted average.
9. Not applicable to Discharge 001.

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Table F-3. Historic Groundwater Quality

Parameter	Units	MCL	Median Groundwater Concentrations (From 1996 To 2011)[1]						
			MW-A	MW-B	MW-C	MW-D	MW-E	MW-F	MW-G
Screen Interval	feet bgs	--	50-70	50-70	50-70	50-70	50-70	18-33	55-74
Nitrate as N	mg/L	10[2]	8.4	11	4	8.8	5.1	34	3.4
EC	µmhos/cm	900[3]	490	1,100	869	960	830	1,000	866
Calcium	mg/L	--	64.5	120	88	109	75	83	83
Magnesium	mg/L	--	19.5	43	32	38	28	32	33
Potassium	mg/L	--	3	5.1	5	5.1	4.1	6.4	5.3
Sodium	mg/L	--	15	58	58	46	65	73	60
Boron	mg/L	--	<0.1	<0.1	<0.1	<0.1	0.2	0.2	0.1
Iron	mg/L	0.3[4]	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	0.10
Manganese	mg/L	0.05[4]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03
Bicarbonate	mg/L	--	207	440	360	360	330	300	310
Sulfate	mg/L	250[3]	29	91	49	87	46	75	46
Chloride	mg/L	250[3]	22	57	82	61	76	30	68
Aluminum	mg/L	0.2[3]	<0.05	0.05	<0.05	0.05	0.05	0.05	0.05
Phosphate	mg/L	--	0.3	0.4	0.3	0.3	0.3	5.8	0.9
Total Coliform	MPN/100mL	--	1.1	1.1	1.1	1.1	1.1	1.1	1.1

1. Direction of groundwater flow is primarily to the southwest.
2. Maximum Contaminant Level for drinking water, Title 22, CCR.
3. Recommended Secondary Maximum Contaminant Level from Table 6449-B, Title 22, CCR.
4. Secondary Maximum Contaminant Level from Table 64449-A, Title 22, CCR.

D. Compliance Summary

The Discharger was issued Notices of Violation on 28 August 2008, 10 August 2009, 21 January 2011, and 9 November 2011 following Compliance Evaluation Inspections of the Facility. Violations were typically associated with recordkeeping, sample preservation or analysis, and improperly operating or out of service treatment units.

E. Planned Changes

There are no known changes planned for the Facility at this time.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the applicable plans, policies, and regulations identified in the Findings in section II of this Order. The applicable plans, policies, and regulations relevant to the discharge include the following:

A. Legal Authorities

This Order is issued pursuant to regulations in the Clean Water Act (CWA) and the California Water Code (Water Code) as specified in the Finding contained at section II.C of this Order.

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B. California Environmental Quality Act (CEQA)

This Order meets the requirements of CEQA as specified in the Finding contained at section II.E of this Order. On 19 November 1996, the Discharger certified a final Environmental Impact Report (EIR) in accordance with CEQA and Section 15090 of the State CEQA Guidelines. At the time, the Central Valley Water Board considered the EIR and concurred there are no significant impacts on water quality as a result of the WWTF discharge.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** This Order implements the following water quality control plan as specified in the Finding contained at section II.H of this Order.

   a. *Water Quality Control Plan, Second Edition (Revised January 2004), for the Tulare Lake Basin* (Basin Plan)

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** This Order implements the NTR and CTR as specified in the Finding contained at section II.I of this Order.

3. **State Implementation Policy (SIP).** This Order implements the SIP as specified in the Finding contained at section II.J of this Order.

4. **Alaska Rule.** This Order is consistent with the Alaska Rule as specified in the Finding contained at section II.L of this Order.

5. **Antidegradation Policy.** As specified in the Finding contained at section II.N of this Order and as discussed in detail in the Fact Sheet (Attachment F, Section IV.D.4.), the discharge is consistent with the antidegradation provisions of 40 CFR section 131.12 and State Water Resources Control Board (State Water Board) Resolution 68-16.

6. **Anti-Backsliding Requirements.** This Order is consistent with anti-backsliding policies as specified in the Finding contained at section II.O of this Order. Compliance with the anti-backsliding requirements is discussed in the Fact Sheet (Attachment F, Section IV.D.3).

7. **Emergency Planning and Community Right to Know Act**

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

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

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

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

8. Storm Water Requirements

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

9. Endangered Species Act. This Order is consistent with the Endangered Species Act as specified in the Finding contained at section II.P of this Order.

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

1. Under section 303(d) of the 1972 CWA, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 30 November 2006 USEPA gave final approval to California's 2006 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "…*those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources* (40 CFR Part 130, et seq.)." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment*." Sand Creek is not listed as an impaired water body under California's 2010 section 303(d) List of Water Quality Limited Segments.

2. Total Maximum Daily Loads (TMDLs). USEPA requires the Central Valley Water Board to develop TMDLs for each 303(d) listed pollutant and water body combination. No TMDLs are scheduled for Sand Creek.

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E. Other Plans, Policies and Regulations

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

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

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

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

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

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

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric

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water quality objectives have not been established. The Basin Plan at page IV-21 contains an implementation policy, "*Application of Water Quality Objectives*" that specifies that the Central Valley 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 Central Valley Water Board must establish effluent limitations using one or more of three specified sources, including: (1) USEPA's published water quality criteria, (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (i.e., the Central Valley Water Board's "*Policy for Application of Water Quality Objectives*")(40 CFR 122.44(d)(1)(vi)(A), (B) or (C)), or (3) an indicator parameter.

The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, discoloration, radionuclides, and tastes and odors. The narrative toxicity objective states: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*." (Basin Plan at III-6) The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The narrative chemical constituents objective states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, "…*water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)…" in Title 22 of CCR.* The Basin Plan further states that, to protect all beneficial uses, the Central Valley Water Board may apply limits more stringent than MCLs. The narrative tastes and odors objective requires that water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.

A. Discharge Prohibitions

1. **Prohibition III.A (No discharge to Sand Creek from 1 May through 31 October of each year).** This prohibition is based on DPH's Uniform Guidelines for Wastewater Disinfection that indicates discharges should only be permitted when dilution flows are more likely and cooler temperatures will discourage REC-1 and REC-2 uses of the receiving water when an effluent limit for total coliform is 23 MPN/100mL (7-sample median). In addition, the Basin Plan and Central Valley Water Board Resolution No. R5-2009-2008, *In Support of Regionalization, Reclamation, Recycling and Conservation for Wastewater Treatment Plants*, encourage wastewater reclamation and indicated discharges to surface waters will not be considered a permanent solution when the potential exists for wastewater reclamation.

2. **Prohibition III.B (No discharge or application of waste other than that described in this Order).** This prohibition is based on Water Code section 13260 that requires filing of a report of waste discharge (ROWD) before discharges can

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occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore, discharges not described in this Order are prohibited.

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

4. **Prohibition III.D (No controllable condition shall create a nuisance).** This prohibition is based on Water Code section 13050 that requires water quality objectives established for the prevention of nuisance within a specific area. The Basin Plan prohibits conditions that create a nuisance or pollution.

5. **Prohibition III.E (No inclusion of pollutant free wastewater shall cause improper operation of the Facility's systems).** This prohibition is based on 40 CFR Part 122.41 et seq. that requires the proper design and operation of treatment facilities.

6. **Prohibition III.F (No discharge of hazardous waste).** This prohibition concerns a category of waste that is subject to full containment as prescribed by Title 23 and Title 27 of the CCR, and if discharged, has a high potential for creating a condition that would violate Provision III.D as well.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR Part 133.

Regulations promulgated in 40 CFR 125.3(a)(1) require technology-based effluent limitations for municipal dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works

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must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of 5-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations

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

b. Flow. The Facility was designed to provide a secondary level of treatment for up to a design flow of 2.0 mgd.

c. pH. The secondary treatment regulations at 40 CFR Part 133 also require that pH be maintained between 6.0 and 9.0 standard units.

Summary of Technology-based Effluent Limitations
Discharge Point No. 002

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

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD_5	mg/L	30	45	60	--	--
	lbs/day	500[1]	750[1]	1000[1]	--	--
TSS	mg/L	30	45	60	--	--
	lbs/day	500[1]	750[1]	1000[1]	--	--
pH	standard units	--	--	--	6.0	9.0

1. Based on a flow rate of 2.0 mgd in accordance with Effluent Limitation IV.A.1.f.

a. Flow. Discharge to Sand Creek is only allowed from 1 November through 30 April. The monthly average daily discharge flow shall not exceed 2.0 mgd.

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

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C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Sand Creek falls within a group of streams termed in the Basin Plan as Valley Floor Waters that do not have a municipal or domestic supply beneficial use designation.

The Basin Plan on page II-1 states: *"Protection and enhancement of beneficial uses of water against quality degradation is a basic requirement of water quality planning under the Porter-Cologne Water Quality Control Act. In setting water quality objectives, the Regional Water Board must consider past, present, and probable future beneficial uses of water."* and with respect to disposal of wastewaters states that "...*use of waters for disposal of wastewaters is not included as a beneficial use…and are subject to regulation as activities that may harm protected uses."*

The federal CWA section 101(a)(2), states: "*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and provides for recreation in and on the water be achieved by July 1, 1983.*" Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections

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131.2 and 131.10, require that all waters of the State be regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

a. **Receiving Water and Beneficial Uses.** The WWTF and Discharges 001 and 002 lie in the Alta Hydrologic Area (No. 551.60) of the South Valley Floor Hydrologic Unit (HU) as shown in the interagency maps prepared by the California Department of Water Resources.

   Groundwater underneath cropland where treated effluent is applied has varied between 5 feet to approximately 33 feet below ground surface since 2005.

   Sand Creek falls within a group of streams termed in the Basin Plan as Valley Floor Waters.

   Beneficial uses from Table II-1 of the Basin Plan applicable to groundwater and Sand Creek are as follows:

Table F-5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Groundwater	Existing uses from Table II-2 of the Basin Plan: Municipal and domestic supply (MUN); Agricultural supply, including irrigation and stock watering (AGR); Industrial process supply (PRO); and Industrial service supply (IND);
002	Sand Creek	Existing uses from Table II-1 of the Basin Plan: Agricultural supply, including irrigation and stock watering (AGR); Industrial process supply (PRO); Industrial service supply (IND); Water contact recreation, including canoeing and rafting (REC-1); Non-contact water recreation (REC-2); Warm freshwater habitat (WARM); Wildlife Habitat (WILD); Rare, Threatened, or Endangered Species (RARE); and Groundwater Recharge (GWR).

b. **Effluent and Ambient Background Data.** The reasonable potential analysis (RPA), as described in section IV.C.3 of this Fact Sheet, was based on data from 2007 through 2010 (unless otherwise indicated herein), which includes

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effluent and ambient background data submitted in the Report of Waste Discharge.

c. **Conversion Factors.** The CTR contains aquatic life criteria for arsenic, cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc which are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The default USEPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total recoverable criteria.

d. **Hardness-Dependent CTR Metals Criteria.** The *California Toxics Rule* and the *National Toxics Rule* contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness the lower the water quality criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

This Order has established the criteria for hardness-dependent metals based on the reasonable worst-case ambient hardness as required by the SIP[1], the CTR[2] and State Water Board Order No. WQ 2008-0008 (City of Davis). The SIP and the CTR require the use of "receiving water" or "actual ambient" hardness, respectively, to determine effluent limitations for these metals. (SIP, § 1.2; 40 CFR 131.38(c)(4)) The CTR does not define whether the term "ambient," as applied in the regulations, necessarily requires the consideration of upstream as opposed to downstream hardness conditions. Therefore, where reliable, representative data are available, the hardness value for calculating criteria can be the downstream receiving water hardness, after mixing with the effluent (Order WQ 2008-0008, p. 11). The Central Valley Water Board thus has considerable discretion in determining ambient hardness (*Id.*, p.10).

As discussed below, scientific literature provides a reliable method for calculating protective hardness-dependent CTR criteria, considering all discharge conditions. This methodology produces hardness-dependent CTR criteria based on the reasonable worst-case downstream ambient hardness that ensure these metals do not cause receiving water toxicity under any downstream receiving water condition. Under this methodology, the Central Valley Water Board considers all hardness conditions that could occur in the ambient downstream receiving water after the effluent has mixed with the water body[3]. This ensures that effluent limitations are fully protective of aquatic life in all areas of the receiving water affected by the discharge under all flow

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[1] The SIP does not address how to determine the hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water.

[2] The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used. It further requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones.

[3] All effluent discharges will change the ambient downstream metals concentration and hardness. It is not possible to change the metals concentration without also changing the hardness.

conditions, at the fully mixed location, and throughout the water body including at the point of discharge into the water body.

i. Conducting the Reasonable Potential Analysis (RPA). The SIP in Section 1.3 states, "The RWQCB shall…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." Section 1.3 provides a step-by-step procedure for conducting the RPA. The procedure requires the comparison of the Maximum Effluent Concentration (MEC) and Maximum Ambient Background Concentration to the applicable criterion that has been properly adjusted for hardness. Unless otherwise noted, for the hardness-dependent CTR metals criteria the following procedures were followed for properly adjusting the criterion for hardness when conducting the RPA.

a) The SIP requires water quality-based effluent limitations (WQBELs) if the MEC is equal to or exceeds the applicable criterion, adjusted for hardness. For comparing the MEC to the applicable criterion, the "fully mixed" reasonable worst-case downstream ambient hardness was used to adjust the criterion. In this evaluation the portion of the receiving water affected by the discharge is analyzed. For hardness-dependent criteria, the hardness of the effluent has an impact on the determination of the applicable criterion in areas of the receiving water affected by the discharge. Therefore, for comparing the MEC to the applicable criterion, the reasonable worst-case downstream ambient hardness was used to adjust the criterion. For this situation it is necessary to consider the hardness of the effluent in determining the applicable hardness to adjust the criterion. The procedures for determining the applicable criterion after proper adjustment using the reasonable worst-case downstream ambient hardness are outlined in subsection ii, below.

b) The SIP requires WQBELs if the receiving water is impaired upstream (outside the influence) of the discharge, i.e., if the Maximum Ambient Background Concentration of a pollutant exceeds the applicable criterion, adjusted for hardness[1]. For comparing the Maximum Ambient Background Concentration to the applicable criterion, the reasonable worst-case upstream ambient hardness was used to adjust the criteria. This is appropriate, because this area is outside the influence of the discharge. Since the discharge does not impact the upstream hardness, the effect of the effluent hardness was not included in this evaluation.

ii. Calculating Water Quality-Based Effluent Limitations. The remaining discussion in this section relates to the development of WQBELs when it has been determined that the discharge has reasonable potential to cause

[1] The pollutant must also be detected in the effluent.

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or contribute to an exceedance of the CTR hardness-dependent metals criteria in the receiving water.

A 2006 Study[1] developed procedures for calculating the effluent concentration allowance (ECA)[2] for CTR hardness-dependent metals. The 2006 Study demonstrated that it is necessary to evaluate all discharge conditions (e.g. high and low flow conditions) and the hardness and metals concentrations of the effluent and receiving water when determining the appropriate ECA for these hardness-dependent metals. This method is superior to relying on downstream receiving water samples alone because it captures all possible mixed conditions in the receiving water. Both receiving water and effluent hardness vary based on flow and other factors, but the variability of receiving water and effluent hardness is sometimes independent. Using a calculated hardness value ensures that the Central Valley Water Board considers all possible mixed downstream values that may result from these two independent variables. Relying on receiving water sampling alone is less likely to capture all possible mixed downstream conditions.

The equation describing the total recoverable regulatory criterion, as established in the CTR[3], is as follows:

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

Where:

H = hardness (as $CaCO_3$)[4]
WER = water-effect ratio
m, b = metal- and criterion-specific constants

In accordance with the CTR, the default value for the WER is 1. A WER study must be conducted to use a value other than 1. The constants “m” and “b” are specific to both the metal under consideration, and the type of total recoverable criterion (i.e., acute or chronic). The metal-specific values for these constants are provided in the CTR at paragraph (b)(2), Table 1.

The equation for the ECA is defined in Section 1.4, Step 2, of the SIP and is as follows:

$$\text{ECA} = \text{C} \qquad (\text{when } \text{C} \leq \text{B})^{1} \qquad \text{(Equation 2)}$$

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[1] Emerick, R.W.; Borroum, Y.; & Pedri, J.E., 2006. California and National Toxics Rule Implementation and Development of Protective Hardness Based Metal Effluent Limitations. WEFTEC, Chicago, Ill.
[2] The ECA is defined in Appendix 1 of the SIP (page Appendix 1-2). The ECA is used to calculate WQBELs in accordance with Section 1.4 of the SIP.
[3] 40 CFR § 131.38(b)(2).
[4] For this discussion, all hardness values are in mg/L as $CaCO_3$.

Where:

C = the priority pollutant criterion/objective, adjusted for hardness (see Equation 1, above)

B = the ambient background concentration

The 2006 Study demonstrated that the relationship between hardness and the calculated criteria is the same for some metals, so the same procedure for calculating the ECA may be used for these metals. The same procedure can be used for chronic cadmium, chromium III, copper, nickel, and zinc. These metals are hereinafter referred to as "Concave Down Metals". "Concave Down" refers to the shape of the curve represented by the relationship between hardness and the CTR criteria in Equation 1. Another similar procedure can be used for determining the ECA for acute cadmium, lead, and acute silver, which are referred to hereafter as "Concave Up Metals".

ECA for Chronic Cadmium, Chromium III, Copper, Nickel, and Zinc – For Concave Down Metals (i.e., chronic cadmium, chromium III, copper, nickel, and zinc) the 2006 Study demonstrates that when the effluent is in compliance with the CTR criteria and the upstream receiving water is in compliance with the CTR criteria, any mixture of the effluent and receiving water will always be in compliance with the CTR criteria[2]. The 2006 Study proves that regardless of whether the effluent hardness is lower or greater than the upstream hardness, the reasonable worst-case flow condition is the effluent dominated condition (i.e., no receiving water flow)[3]. Consequently, for Concave Down Metals, the CTR criteria have been calculated using the downstream ambient hardness under this condition.

A minimum effluent hardness of 180 mg/L and a minimum receiving water hardness of 100 mg/L were detected in samples collected between 2007 and 2010. Under the effluent dominated condition, the reasonable worst-case downstream ambient hardness is 180 mg/L. As demonstrated in the example shown in Table F-6a, below, using this hardness to calculate the ECA for all Concave Down Metals will result in WQBELs that are protective under all flow conditions, from the effluent dominated condition to high flow condition. This example for copper assumes the following conservative conditions for the upstream receiving water:

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[1] The 2006 Study assumes the ambient background metals concentration is equal to the CTR criterion (i.e. C ≤ B)
[2] 2006 Study, p. 5700
[3] There are two typographical errors in the 2006 Study in the discussion of Concave Down Metals when the effluent hardness is less than the receiving water hardness. The effluent and receiving water hardness were transposed in the discussion, but the correct hardness values were used in the calculations. The typographical errors were confirmed by the author of the 2006 Study, by email dated 1 April 2011, from Dr. Robert Emerick to Mr. James Marshall, Central Valley Water Board.

- Upstream receiving water always at the lowest observed upstream receiving water hardness (i.e., 100 mg/L)

- Upstream receiving water copper concentration always at the CTR criteria (i.e., no assimilative capacity).

Using these reasonable worst-case receiving water conditions, a simple mass balance (as shown in Equation 3, below) accounts for all possible mixtures of effluent and receiving water under all flow conditions.

$$C_{MIX} = C_{RW} \times (1\text{-}EF) + C_{Eff} \times (EF) \qquad \text{(Equation 3)}$$

Where:

C_{MIX} = Mixed concentration (e.g. metals or hardness)
C_{RW} = Upstream receiving water concentration
C_{Eff} = Effluent concentration
EF = Effluent Fraction

In this example, for copper, for any receiving water flow condition (high flow to low flow), the fully-mixed downstream ambient copper concentration is in compliance with the CTR criteria.[1]

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[1] This method considers the actual lowest observed upstream hardness and actual lowest observed effluent hardness to determine the reasonable worst-case ambient downstream hardness under all possible receiving water flow conditions. Table F-4 demonstrates that the receiving water is always in compliance with the CTR criteria at the fully-mixed location in the receiving water. It also demonstrates that the receiving water is in compliance with the CTR criteria for all mixtures from the point of discharge to the fully-mixed location. Therefore, a mixing zone is not used for compliance.

Table F-6a. Copper ECA Evaluation

Lowest Observed Effluent Hardness	**180 mg/L (as $CaCO_3$)**
Lowest Observed Upstream Receiving Water Hardness	**100 mg/L (as $CaCO_3$)**
Highest Assumed Upstream Receiving Water Copper Concentration	**9.4 µg/L[1]**
Copper $ECA_{chronic}$[2]	**15.4 µg/L**

Effluent Fraction[6]		**Fully Mixed Downstream Ambient Concentration**			
		Hardness[3] (mg/L)	**CTR Criteria[4] (µg/L)**	**Copper[5] (µg/L)**	**Complies with CTR Criteria?**
High Flow	1%	100.8	9.4	9.4	**Yes**
	5%	104	9.6	9.6	**Yes**
	15%	112	10.3	10.2	**Yes**
	25%	120	10.9	10.9	**Yes**
	50%	140	12.4	12.4	**Yes**
	75%	160	13.9	13.9	**Yes**
Low Flow	100%	180	15.4	15.4	**Yes**

1 Highest assumed upstream receiving water copper concentration calculated using Equation 1 for chronic criterion at a hardness of 100 mg/L.

2 ECA calculated using Equation 1 for chronic criterion at a hardness of 180 mg/L.

3 Fully mixed downstream ambient hardness is the mixture of the receiving water and effluent hardness at the applicable effluent fraction using Equation 3.

4 Fully mixed downstream ambient criteria are the chronic criteria calculated using Equation 1 at the mixed hardness.

5 Fully mixed downstream ambient copper concentration is the mixture of the receiving water and effluent copper concentrations at the applicable effluent fraction using Equation 3.

6 The effluent fraction ranges from 1% at the high receiving water flow condition, to 100% at the lowest receiving water flow condition (i.e., effluent dominated).

As discussed above, the receiving water at times contains concentrations of copper that exceed water quality criteria associated with the hardness condition previous to the discharge. The 2006 study procedures remain applicable under these conditions. The discharge cannot cause or contribute to a violation of water quality criteria/objectives in the receiving water. Although metals concentrations downstream of the discharge exceed CTR criteria, the cause of the exceedance is not due to the discharge, it is due to the elevated metals concentrations upstream of the discharge. Implementing the procedures of the 2006 study does not result in an increase in toxicity downstream of the discharge, and in fact reduces the amount of toxicity already present in the receiving water. This is demonstrated in the example below for copper (see Table F-6b).

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As shown in Table F-6b for copper, prior to the discharge the copper has been observed to exceed water quality criteria by up to 34%. When the receiving water contains some fraction of effluent, the percent exceedance is reduced. The greater the amount of effluent in the receiving water, the lower the percent exceedance, until a fully compliant state is achieved when the effluent constitutes the entire flow. The effluent limitation associated with copper, therefore, was sufficient to assure that the discharge never causes or contributes to a violation of a water quality criterion, and in fact reduces the amount of toxicity already present in the receiving water.

Table F-6b. Copper ECA Evaluation

Lowest Observed Effluent Hardness					**180 mg/L (as $CaCO_3$)**
Lowest Observed Upstream Receiving Water Hardness					**100 mg/L (as $CaCO_3$)**
Highest Observed Upstream Receiving Water Copper Concentration					**12.5 µg/L[1]**
Copper $ECA_{chronic}$[2]					**15.4 µg/L**
Effluent Fraction[6]		**Fully Mixed Downstream Ambient Concentration**			
		Hardness[3] (mg/L)	**CTR Criteria[4] (µg/L)**	**Copper[5] (µg/L)**	**Percent Exceeding Criterion**
High Flow	0%	100	9.3	12.5	**34%**
	1%	100.8	9.4	12.5	**33%**
	5%	104	9.6	12.6	**31%**
	15%	112	10.3	12.9	**26%**
	25%	120	10.9	13.2	**21%**
	50%	140	12.4	14.0	**12%**
Low Flow	75%	160	13.9	14.7	**5%**
	100%	180	15.4	15.4	**0%**

1 Highest assumed upstream receiving water copper concentration calculated using Equation 1 for chronic criterion at a hardness of 100 mg/L.

2 ECA calculated using Equation 1 for chronic criterion at a hardness of 180 mg/L.

3 Fully mixed downstream ambient hardness is the mixture of the receiving water and effluent hardness at the applicable effluent fraction using Equation 3.

4 Fully mixed downstream ambient criteria are the chronic criteria calculated using Equation 1 at the mixed hardness.

5 Fully mixed downstream ambient copper concentration is the mixture of the receiving water and effluent copper concentrations at the applicable effluent fraction using Equation 3.

6 The effluent fraction ranges from 0% at the high receiving water flow condition, to 100% at the lowest receiving water flow condition (i.e., effluent dominated).

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ECA for Acute Cadmium, Lead, and Acute Silver – For Concave Up Metals (i.e., acute cadmium, lead, and acute silver), the relationship between hardness and the metals criteria is different than for Concave Down Metals. The 2006 Study demonstrates that for Concave Up Metals, the effluent and upstream receiving water can be in compliance with the CTR criteria, but the resulting mixture may contain metals concentrations that exceed the CTR criteria and could cause toxicity. For these metals, the 2006 Study provides a mathematical approach to calculate the ECA that is protective of aquatic life, in all areas of the receiving water affected by the discharge, under all discharge and receiving water flow conditions (see Equation 4, below).

The ECA, as calculated using Equation 4, is based on the reasonable worst-case upstream receiving water hardness, the lowest observed effluent hardness, and assuming no receiving water assimilative capacity for metals (i.e., ambient background metals concentrations are at their respective CTR criterion). Equation 4 is not used in place of the CTR equation (Equation 1). Rather, Equation 4, which is derived using the CTR equation, is used as a direct approach for calculating the ECA. This replaces an iterative approach for calculating the ECA. The CTR equation has been used to evaluate the receiving water downstream of the discharge at all discharge and flow conditions to ensure the ECA is protective (e.g., see Table F-7).

$$\text{ECA} = \left(\frac{m\left(H_e - H_{rw}\right)\left(e^{m\{\ln(H_{rw})\}+b}\right)}{H_{rw}} \right) + e^{m\{\ln(H_{rw})\}+b} \qquad \text{(Equation 4)}$$

Where:

m, b = criterion specific constants (from CTR)

H_e = lowest observed effluent hardness

H_{rw} = reasonable worst-case upstream receiving water hardness

An example similar to the Concave Down Metals is shown for lead**,** a Concave Up Metal, in Table F-7, below. As previously mentioned, the lowest effluent hardness is 180 mg/L, while the reasonable worst-case upstream receiving water hardness to use in Equation 4 to calculate the ECA is 100 mg/L.

Using the procedures discussed above to calculate the ECA for all Concave Up Metals will result in WQBELs that are protective under all potential effluent/receiving water flow conditions (high flow to low flow) and under all known hardness conditions, as demonstrated in Table F-7, for lead.

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Table F-7. Lead ECA Evaluation

Lowest Observed Effluent Hardness	**180 mg/L**
Reasonable Worst-case Upstream Receiving Water Hardness	**100 mg/L**
Reasonable Worst-case Upstream Receiving Water Lead Concentration	**3.2 µg/L[1]**
Lead $ECA_{chronic}$[2]	**6.42 µg/L**

Effluent Fraction[6]		**Fully Mixed Downstream Ambient Concentration**			
		Hardness[3] (mg/L) (as $CaCO_3$)	**CTR Criteria[4] (µg/L)**	**Lead[5] (µg/L)**	**Complies with CTR Criteria?**
High Flow	1%	100.8	3.2	3.2	**Yes**
	5%	104	3.3	3.3	**Yes**
	15%	112	3.7	3.7	**Yes**
	25%	120	4.0	4.0	**Yes**
	50%	140	4.9	4.8	**Yes**
Low Flow	75%	160	5.8	5.6	**Yes**
	100%	180	6.7	6.4	**Yes**

1 Reasonable worst-case upstream receiving water lead concentration calculated using Equation 1 for chronic criterion at a hardness of 100 mg/L.

2 ECA calculated using Equation 4 for chronic criteria.

3 Fully mixed downstream ambient hardness is the mixture of the receiving water and effluent hardness at the applicable effluent fraction.

4 Fully mixed downstream ambient criteria are the chronic criteria calculated using Equation 1 at the mixed hardness.

5 Fully mixed downstream ambient lead concentration is the mixture of the receiving water and effluent lead concentrations at the applicable effluent fraction.

6 The effluent fraction ranges from 1% at the high receiving water flow condition, to 100% at the lowest receiving water flow condition (i.e., effluent dominated).

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Based on the procedures discussed above, Table F-8 lists all the CTR hardness-dependent metals and the associated ECA used in this Order.

Table F-8. Summary of ECA Evaluations for CTR Hardness-dependent Metals

CTR Metals	ECA (µg/L, total recoverable)	
	acute	chronic
Copper	24.4	15.4
Chromium III	2,810.3	335
Cadmium	8.59	3.9
Lead	164.8	6.42
Nickel	771.4	85.8
Silver	9.64	--
Zinc	197.2	197.2

3. Determining the Need for WQBELs

a. In this Order, the RPA procedures from the SIP section 1.3 were used to evaluate reasonable potential for both CTR/NTR constituents based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs. Non-CTR constituents were evaluated on an individual basis.

b. Constituents with No Reasonable Potential. WQBELs are not included in this Order for constituents that do not demonstrate reasonable potential; however, monitoring for those pollutants is established in this Order as required by the SIP. If the results of effluent monitoring demonstrate reasonable potential, this Order may be reopened and modified by adding an appropriate effluent limitation.

Most constituents with no reasonable potential are not discussed in this Order. However, the following constituents were found to have no reasonable potential after assessment of the data:

i. Aluminum

(a) WQO. USEPA developed National Recommended Ambient Water Quality Criteria (NAWQC) for protection of freshwater aquatic life for

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aluminum. The recommended 4-day average (chronic) and 1-hour average (acute) criteria for aluminum are 87 µg/L and 750 µg/L, respectively, for waters with a pH of 6.5 to 9.0.

Footnote L of Table 2 on page 19 of the National Recommended Ambient Water Quality Criteria Correction (April 1999), indicates that the chronic aquatic life criterion is based on studies conducted under specific receiving water conditions with a low pH (6.5 to 6.6 pH units) and low hardness (<10 mg/L as $CaCO_3$). Since the pH and hardness of the samples collected from the receiving water were 7.6 pH units and 100 mg/L, respectively, the chronic aquatic life criterion of 87 ug/L is not applicable to this discharge.

(b) RPA Results. The Discharger has analyzed seven effluent samples for aluminum since 2008, as shown in Table F-9 below. In November 2010, aluminum was detected in the effluent at a concentration of 1,700 µg/L; however, the Discharger indicated maintenance repairs initiated in November 2010 resulted in the secondary clarifier not being fully functional and effluent data from this time period not being representative of normal Facility operation. The maintenance activities may have contributed to the effluent aluminum concentration in November 2010 to be more than 14 times greater than the average of the remaining effluent data points. Furthermore, the average effluent BOD_5 and total suspended solids concentrations were more than five times the normal average concentrations during November 2010, which may also be indicative of abnormal Facility operation. The November 2010 aluminum result is not included in the RPA. Therefore, the maximum effluent concentration (MEC) for aluminum was 430 µg/L. No receiving water data were available. Therefore, aluminum in the discharge does not demonstrate reasonable potential to cause or contribute to an in-stream excursion above the acute NAWQC of 750 µg/L.

Table F-9. Effluent Aluminum Results

Date	Aluminum (mg/L)
4/10/08	0.036
9/4/08	0.078
4/30/09	0.055
10/22/09	<0.050
11/22/10	1.7
4/14/11[1]	0.430
4/14/11[1]	<0.050

[1] Two separate effluent samples collected on 4/14/11 and analyzed for aluminum.

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ii. Arsenic

(a) WQO. The CTR includes criteria for the protection of freshwater aquatic life for arsenic. Using the default conversion factors, the applicable acute (1-hour average) and chronic (4-day average) criteria for the effluent are 340 µg/L and 150 µg/L, respectively, as total recoverable.

(a) RPA Results. The MEC for arsenic is 2.7 µg/L while the maximum observed upstream receiving water concentration was 2.4 µg/L. Therefore, arsenic in the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above the chronic CTR criterion of 150 µg/L.

iii. Lead

(a) WQO. The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for lead. Using the default conversion factors and reasonable worst-case measured hardness as described in section IV.C.2.d, the applicable acute (1-hour average) and chronic (4-day average) criteria for the effluent are 164.8 µg/L and 6.4 µg/L, respectively, as total recoverable.

(b) RPA Results. The MEC for lead is 1.2 µg/L while lead was not detected at or above the method detection limit of 5 µg/L in the upstream receiving water. Therefore, lead in the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above the chronic CTR criterion of 6.4 µg/L.

iv. Silver

(a) WQO. The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for silver. Using the default conversion factors and reasonable worst-case measured hardness as described in section IV.C.2.d, the applicable acute (1-hour average) criteria for the effluent is 9.6 µg/L, as total recoverable.

(b) RPA Results. Silver was not detected at or above the method detection limit of 5 µg/L in the effluent or upstream receiving water. Therefore, silver in the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above the acute CTR criterion of 9.6 µg/L.

c. Constituents with Reasonable Potential. The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for copper, total coliform organisms, pH, un-ionized ammonia, and settleable solids. WQBELs for these constituents are included in this Order. A summary of the RPA is provided in

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Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

i. Copper

(a) WQO. The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for copper. Section 1.3 of the SIP contains requirements for conducting the RPA for CTR constituents. Step 1 of the RPA requires that CTR criteria be adjusted for hardness, as applicable. In this case, the minimum observed effluent hardness was used to adjust the CTR criteria for copper when comparing the MEC to the criteria and the minimum observed receiving water hardness was used when comparing the maximum background receiving water copper concentrations to the criteria. Using the default conversion factors and reasonable worst-case measured hardness of the receiving water, as described in section VI.C.2.d of this Fact Sheet, the applicable acute (1-hour average) and chronic (4-day average) criteria for the receiving water are 24.4 µg/L and 15.4 µg/L, respectively for total recoverable. The applicable acute (1-hour average) and chronic (4-day average) criteria for the upstream receiving water are 14 µg/L and 9.2 µg/L, respectively for total recoverable.

(b) RPA Results. Copper was detected in the effluent at concentrations of 88 µg/L and 110 µg/L in November 2010. However, as indicated in section IV.C.3.b.i.(b), data collected during November 2010 is not representative of normal Facility operation due to maintenance activities on the secondary clarifier and the November 2010 data are not included in the RPA. Therefore, the maximum effluent concentration (MEC) for copper was 85 µg/L while the maximum observed upstream receiving water concentration was 12 µg/L. Therefore, copper in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR chronic criteria for protection of freshwater aquatic life.

(c) WQBELs. Due to no assimilative capacity, dilution credits are not allowed for development of the WQBELs for copper. This Order contains a final average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) for copper of 9.9 µg/L and 24 µg/L, respectively, based on the CTR criteria for protection of freshwater aquatic life.

(d) Plant Performance and Attainability. Analysis of the effluent data shows that the MEC of 85 µg/L is greater than applicable WQBELs. Based on the sample results for the effluent, the limitations appear to put the Discharger in immediate non-compliance. New or modified control measures may be necessary in order to comply with the effluent limitations, and the new or modified control measures cannot

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be designed, installed and put into operation within 30 calendar days. Furthermore, the effluent limitations for copper are a new regulatory requirement within this permit, which becomes applicable to the waste discharge with the adoption of this Order, which was adopted after 1 July 2000. Therefore, a time schedule for compliance with the copper effluent limitations is established in TSO No. R5-2013-**XXXX** in accordance with Water Code section 13300, that requires preparation and implementation of a pollution prevention plan in compliance with Water Code section 13263.3.

ii. Pathogens

(a) WQO. Title 22 criteria do not apply directly to water of the State. The DPH drafted *Uniform Guidelines for Wastewater Disinfection* (retyped in November 2000) (Guidelines) that recommend treatment and disinfection levels of discharges to waters of the State. The Guidelines recommend effluent have a median coliform bacteria most probable number (MPN) not exceeding 23 MPN/100mL when:

i. Discharges are to ephemeral streams that have little or no natural flow all or part of the year,

ii. There is no nearby habitation,

iii. There is limited use of the discharge area, and

iv. Contact with the effluent is not encouraged.

(b) RPA Results. Habitation downstream of the discharge is sparse and there is limited opportunity for contact with Sand Creek in the vicinity of the discharge. The WWTF is prohibited from discharging to Sand Creek during the summer months when upstream flow in the creek is most likely to be low or non-existent. Discharges are only permitted from November 1 through April 30 when dilution flows are more likely and cooler temperatures will discourage REC-1 and REC-2 uses. As the conditions of discharge are similar to items i – iv above, the DPH requirements are applicable to the discharge.

(c) WQBELs. Pursuant to guidance from DPH, this Order includes effluent limitations for total coliform organisms of 23 MPN/100 mL as a 7-day median and 240 MPN/100 mL, not to be exceeded more than once in a 30-day period. These coliform limits are imposed to protect the beneficial uses of the receiving water, including public health through contact recreation. As with Order No. R5-2006-0092, this Order specifies a 7-day median limit except when the discharge occurs for less than 7-days, at which time it specifies a median of all samples collected during the period of discharge. The daily maximum

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requirement for total coliform of 240 MPN/100mL is carried over from Order No. R5-2006-0092.

(d) Plant Performance and Attainability. The WWTF has the ability to disinfect the effluent with ultraviolet light prior to discharging to either Discharge 001 or 002. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iii. pH

(a) WQO. The Basin Plan includes a water quality objective for surface waters that, *"The pH of water shall not be depressed below 6.5, raised above 8.3."*

(b) RPA Results. Federal regulations at 40 C.F.R. §122.44(d)(1)(i) requires that, "*Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines 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.*" For priority pollutants, the SIP dictates the procedures for conducting the RPA. pH is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

USEPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).*" USEPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "*When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data.*" (TSD, p. 50)

The pH for the Facility's influent varies due to the nature of municipal

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sewage, which provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's numeric objective for pH in the receiving water. Therefore, WQBELs for pH are required in this Order.

(c) WQBELs. Effluent limitations for pH of 6.5 as an instantaneous minimum and 8.5 as an instantaneous maximum are included in this Order based on protection of the Basin Plan objectives for pH. They are retained from Order No. R5-2006-0092.

(d) Plant Performance and Attainability. Analysis of the effluent data indicates the minimum and maximum pH of the effluent has been 7.2 and 7.7 pH units, respectively. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iv. Un-ionized Ammonia

(a) WQO. The Basin Plan includes a water quality objective for surface waters that, *"Waters shall not contain un-ionized ammonia in amounts which adversely affect beneficial uses. In no case shall the discharge of wastes cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/L (as N) in receiving waters."*

(b) RPA Results. Federal regulation at 40 CFR §122.44(d)(1)(i) requires that, "*Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines 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.*" For priority pollutants, the SIP dictates the procedures for conducting the RPA. Un-ionized ammonia is not a priority pollutant. Therefore, the Central Valley Water Board has used best professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent.

USEPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State Implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters)." USEPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "When determining whether or not a discharge causes,*

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has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data." With regard to POTWs, USEPA recommends that, *"POTWs should also be characterized for the possibility of chlorine and ammonia problems."* (TSD, p. 50).

The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia. Nitrification is a biological process that converts ammonia to nitrite and nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger currently uses nitrification to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving water. Ammonia is known to cause toxicity to aquatic organisms in surface waters. Discharges of ammonia in concentrations that produce detrimental physiological responses to human, plant, animal, or aquatic life would violate the Basin Plan narrative toxicity objective. Although the Discharger nitrifies the discharge, inadequate or incomplete nitrification creates the potential for ammonia to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's water quality objective. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for ammonia and WQBELs are required.

(c) WQBELs. Since there is no dilution allowance, it is appropriate to apply the Basin Plan's water quality objective of 0.025 mg/L for un-ionized ammonia as a discharge limitation.

(d) Plant Performance and Attainability. Although the Discharger's effluent data indicate un-ionized ammonia is at times greater than 0.025 mg/L, discharge has not occurred to Sand Creek over the term of the previous permit. Recent discussions with the Discharger have indicated WWTF operation can be slightly modified during discharge to Sand Creek in order to consistently meet the un-ionized ammonia effluent limit. Therefore, immediate compliance with this effluent limitation is feasible.

v. Settleable Solids

(a) WQO. The Basin Plan includes a water quality objective for surface waters that, *"Waters shall not contain substances in concentrations that results in the deposition of material that causes nuisance or adversely affects beneficial uses."*

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(b) RPA Results. The discharge of treated municipal wastewater has a reasonable potential to cause or contribute to an excursion above the Basin Plan's narrative objective for settleable solids.

(c) WQBELs. Effluent limitations for settleable solids are based on limitations from Order No. R5-2006-0092 and were developed to attain the Basin Plan narrative water quality objective for settleable matter.

(d) Plant Performance and Attainability. A review of the Discharger's monitoring data indicates settleable solids have not been detected at or above the method detection limit of 0.1 mL/L for samples collected between January 2008 through December 2010. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

d. Basin Plan Salinity Effluent Limitations

(a) Limits. The Basin Plan at page IV-10 includes effluent limitations for discharges to navigable waters. The Basin Plan requires at a minimum, discharges to surface waters, including stream channels, to comply with the following effluent limitations:

(1) The maximum EC of a discharge shall not exceed the quality of the source water plus 500 µmhos/cm or 1,000 µmhos/cm, whichever is more stringent.

(2) Discharges shall not exceed an EC of 1,000 µmhos/cm, a chloride content of 175 mg/L, or a boron content of 1.0 mg/L.

Table F-10.Basin Plan Salinity Effluent Limitations

Parameter	Basin Plan	Effluent Results[1]	
		Average	Maximum
Chloride (mg/L)	175	68	113
EC (µmhos/cm)	1,000	789	845
Boron (mg/L)	1.0	0.1	0.3

1. Effluent data between January 2008 through December 2010

(b) Data Analysis Results.

(1) Chloride. A review of the Discharger's monitoring data indicates an average effluent chloride concentration of 68 mg/L, with a range from from 56 mg/L to 113 mg/L, for samples collected between January 2008 through December 2010. These levels do not exceed the Basin Plan effluent limit for chloride of 175 mg/L.

(2) Electrical Conductivity. A review of the Discharger's monitoring data indicates an average effluent EC of 789 µmhos/cm, with a

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range from 697 µmhos/cm to 845 µmhos/cm for samples collected between January 2008 and December 2010. The weighted average influent EC for 2010 was approximately 440 µmhos/cm. These levels do not exceed the Basin Plan effluent limits for EC of source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm.

(3) Boron. A review of the Discharger's monitoring data indicates an average effluent boron concentration of 0.1 mg/L, with a range from from 0.1 mg/L to 0.3 mg/L, for samples collected between January 2008 through December 2010. These levels do not exceed the Basin Plan effluent limit for boron of 1.0 mg/L.

(c) WQBELs. Order R5-2006-0092 contained a maximum daily effluent limitation of source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is less. The Basin Plan EC effluent limits are generally applied as rolling annual averages. This Order includes the effluent limits for chloride (175 mg/L) and boron (1.0 mg/L) that implement the Basin Plan effluent limitations for discharges to navigable waters.

(d) Plant Performance and Attainability. Review of the Discharger's monitoring data indicates a maximum effluent chloride, EC, and boron of 113 mg/L, 845 µmhos/cm, and 0.3 mg/L and none of these exceeded the applicable effluent limit. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

4. WQBEL Calculations

a. This Order includes WQBELs for copper, total coliform organisms, pH, un-ionized ammonia, chloride, electrical conductivity, and settleable solids. The general methodology for calculating WQBELs based on the different criteria/objectives is described in subsections IV.C.4.b through e, below. See Attachment H for the WQBEL calculations.

b. Effluent Concentration Allowance. For each water quality criterion/objective, the ECA is calculated using the following steady-state mass balance equation from Section 1.4 of the SIP:

$$ECA = C + D(C - B) \quad \text{where } C>B, \text{ and}$$
$$ECA = C \quad \text{where } C \leq B$$

where:

ECA = effluent concentration allowance
D = dilution credit

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C = the priority pollutant criterion/objective
B = the ambient background concentration

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples. For ECAs based on MCLs, which implement the Basin Plan's chemical constituents objective and are applied as annual averages, an arithmetic mean is also used for B due to the long-term basis of the criteria.

c. **Basin Plan Objectives and MCLs.** For WQBELs based on site-specific numeric Basin Plan objectives or MCLs, the effluent limitations are applied directly as the ECA as either an MDEL, AMEL, or average annual effluent limitations, depending on the averaging period of the objective.

d. **Aquatic Toxicity Criteria.** WQBELs based on acute and chronic aquatic toxicity criteria are calculated in accordance with Section 1.4 of the SIP. The ECAs are converted to equivalent long-term averages (i.e. LTAacute and LTAchronic) using statistical multipliers and the lowest LTA is used to calculate the AMEL and MDEL using additional statistical multipliers.

e. **Human Health Criteria.** WQBELs based on human health criteria, are also calculated in accordance with Section 1.4 of the SIP. The ECAs are set equal to the AMEL and a statistical multiplier was used to calculate the MDEL.

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

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

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

where:
$mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
$mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
M_A = statistical multiplier converting acute ECA to LTA_{acute}
M_C = statistical multiplier converting chronic ECA to $LTA_{chronic}$

Summary of Water Quality-Based Effluent Limitations
Discharge Point No. 002

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Table F-11. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper	µg/L	9.9	--	24	--	--
pH	standard units	--	--	--	6.5	8.3
Chloride	mg/L	--	--	175	--	--
Electrical Conductivity @ 25 °C	µmhos/cm	--	--	--	--	[1]
Boron	mg/L	--	--	1.0	--	--
Un-ionized Ammonia	mg/L	--	--	0.025	--	--
Settleable Solids	mL/L	0.1	--	0.5	--	--

1. The 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is more stringent. When source water is from more than one source, the EC shall be a flow-weighted average of all sources.

a. Total Coliform. Effluent total coliform organisms shall not exceed:

i. 23 most probable number (MPN) per 100 mL, as a 7-day median. If discharge occurs less than 7-days, median of all samples collected during the period of discharge; nor

ii. 240 MPN/100 mL, instantaneous maximum.

5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E section V.). This Order also contains effluent limitations for acute and chronic toxicity and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

a. Acute Aquatic Toxicity. The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at page III-6). The Basin Plan also states that, "…effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate…".

For priority pollutants, the SIP dictates the procedures for conducting the RPA. Acute toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Acute whole effluent toxicity is not a priority pollutant. Therefore, due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA . USEPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states,

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"*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).*" Although the discharge has been in compliance with the acute effluent limitations, the Facility is a POTW that treats domestic wastewater containing ammonia and other acutely toxic pollutants. Acute toxicity effluent limits are required to ensure compliance with the Basin Plan's narrative toxicity objective.

USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc." Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

> **Acute Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
>
> Minimum for any one bioassay---------- 70%
> Median for any three consecutive bioassays---------- 90%

Order No R5-2006-0092 required the Discharger to conduct acute toxicity testing bimonthly. However, the Discharger submitted results for three sets of acute toxicity testing from 17 July 2008, 14 August 2008, and 25 September 2008. Results of each test indicated effluent samples were not acutely toxic to larval fathead minnows. This Order requires the Discharger to conduct acute toxicity testing twice per year.

b. Chronic Aquatic Toxicity. The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at page III-6.) Based on chronic WET testing performed by the Discharger in January 2011, the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. As shown in Table F-12 below.

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Table F-12. Whole Effluent Chronic Toxicity Testing Results

	Fathead Minnow *Pimephales promelas*		**Water Flea** *Ceriodaphnia dubia*		**Green Algae** *Selenastrum capricornutum*
Date	Survival (TUc)	Growth (TUc)	Survival (TUc)	Reproduction (TUc)	Growth (TUc)
3 January 2011	1.33	1.33	1.33	1.33	>8.00

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

Numeric chronic WET effluent limitations have not been included in this Order. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region[1] that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-0012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, "*In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits."* The process to revise the SIP is currently underway. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision it is infeasible to develop numeric effluent limitations for chronic toxicity. Therefore, this Order requires that the Discharger meet best management practices for compliance with the Basin Plan's narrative toxicity objective, as allowed under 40 CFR 122.44(k).

To ensure compliance with the Basin Plan's narrative toxicity objective, the Discharger is required to conduct chronic WET testing, as specified in the Monitoring and Reporting Program (Attachment E section V.). Furthermore, the Special Provision contained at VI.C.2.a. of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates toxicity

[1] In the Matter of the Review of Own Motion of Waste Discharge Requirements Order Nos. R4-2002-0121 [NPDES No. CA0054011] and R4-2002-0123 [NPDES NO. CA0055119] and Time Schedule Order Nos. R4-2002-0122 and R4-2002-0124 for Los Coyotes and Long Beach Wastewater Reclamation Plants Issued by the California Regional Water Quality Control Board, Los Angeles Region SWRCB/OCC FILES A-1496 AND 1496(a)

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exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE workplan. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity monitoring, as well as, the threshold to initiate a TRE if effluent toxicity has been demonstrated.

D. Final Effluent Limitations

1. Mass-based Effluent Limitations

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

2. Averaging Periods for Effluent Limitations

40 CFR 122.45 (d) requires average weekly and average monthly discharge limitations for publicly owned treatment works (POTWs) unless impracticable. However, for toxic pollutants and pollutant parameters in water quality permitting, USEPA recommends the use of a maximum daily effluent limitation in lieu of average weekly effluent limitations for two reasons. "*First, the basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards. Second, a 7-day average, which could comprise up to seven or more daily samples, could average out peak toxic concentrations and therefore the discharge's potential for causing acute toxic effects would be missed.*" (TSD, pg. 96) This Order uses maximum daily effluent limitations in lieu of average weekly effluent limitations for copper and settleable solids as recommended by the TSD for the achievement of water quality standards and for the protection of the beneficial uses of the receiving stream. Furthermore, for pH and total coliform organisms, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in section IV.C.3 of this Fact Sheet.

3. Satisfaction of Anti-Backsliding Requirements

The Clean Water Act specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in Clean Water Act sections 402(o) or 303(d)(4), or, where applicable, 40 CFR 122.44(l).

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All effluent limitations in this Order are at least as stringent as the effluent limitations in Order R5-2006-0092, with the exceptions of mass-based effluent limitations for chloride, boron, and un-ionized ammonia. The mass-based effluent limitations for these pollutants have been removed, consistent with the anti-backsliding requirements of the Clean Water Act and Federal Regulations.

a. **Clean Water Act sections 402(o)(1) and 303(d)(4).** Clean Water Act section 402(o)(1) specifies that in the case of effluent limitations established on the basis of Clean Water Act section 301(b)(1)(C) (i.e., WQBELs), a permit may not be renewed, reissued, or modified to contain effluent limitation which are less stringent than the comparable effluent limitations in the previous permit except in compliance with Clean Water Act section 303(d)(4). The mass-based effluent limitations for chloride, boron, and un-ionized ammonia are WQBELs and may be relaxed if the requirements of Clean Water Act section 303(d)(4) are satisfied.

   Clean Water Act 303(d)(4) has two parts: paragraph (A) which applies to nonattainment waters and paragraph (B) which applies to attainment waters. For attainment waters, Clean Water Act section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy. There are no 303(d) listings for Sand Creek, as described in section III.D.1 of this Fact Sheet. Thus the receiving water is an attainment water for chloride, boron, and un-ionized ammonia. The removal of the mass-based WQBELs for chloride, boron, and un-ionized ammonia is consistent with Clean Water Act sections 402(o)(1) and 303(d)(4) and, as described in section IV.D.4 of this Fact Sheet, the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Therefore, the removal of these effluent limitations does not violate anti-backsliding requirements.

   Order No. R5-2006-0092 established final mass-based effluent limitations for chloride, boron, and un-ionized ammonia. 40 CFR 122.45(f)(1)(ii) states that mass-based limitations are not required when applicable standards and limitations are expressed in terms of other units of measurement. The numerical effluent limitations for these pollutants established in this Order are based on water quality standards and objectives, which are expressed in terms of concentration. Pursuant to 40 CFR 122.25(f)(1)(ii), expressing the effluent limitations in terms of concentration is in accordance with Federal Regulations. This Order does not authorize an increase in flow or concentrations of effluent limitations; therefore, the pollutant load authorized by this Order will be no greater than that of Order No. R5-2006-0092. Removing mass-based effluent limitations for these parameters is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16 and do not violate anti-backsliding requirements.

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4. Satisfaction of Antidegradation Policy

a. Surface Water. This Order does not authorize an increase in flow or mass of pollutants to Sand Creek from that allowed in Order No. R5-2006-0092 (i.e., no change in water quality authorized). Thus, the permitted surface water discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

b. Groundwater. The Discharger utilizes trickling filters and and oxidation ditch. Domestic wastewater contains constituents such as total dissolved solids (TDS), specific conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD). Percolation from the wastewater ponds may result in an increase in the concentration of these constituents in groundwater. The increase in the concentration of these constituents in groundwater must be consistent with Resolution No. 68-16. Any increase in pollutant concentrations in groundwater must be shown to be necessary to allow wastewater utility service necessary to accommodate housing and economic expansion in the area and must be consistent with maximum benefit to the people of the State of California. Some degradation of groundwater by the Discharger is consistent with Resolution No. 68-16 provided that:

i. the degradation is limited in extent;

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

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

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

Groundwater monitoring results, as required by Order No. R5-2006-0092, show that EC and nitrate as nitrogen have degraded groundwater quality when compared to background. The Discharger is required to install additional groundwater monitoring wells and conduct a study in order to propose appropriate numeric groundwater quality objectives. The Discharger is also required to prepare and submit for approval a salinity evaluation and minimization plan.

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of

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restrictions on BOD_5, TSS, and flow. The WQBELs consist of restrictions on copper, total coliform, pH, chloride, EC, boron, settleable solids, un-ionized ammonia, and toxicity. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order includes new effluent limitations for copper to meet numeric objectives or protect beneficial uses.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the CTR-SIP, which was approved by USEPA on 18 May 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

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Summary of Final Effluent Limitations
Discharge Point No. 002

Table F-13. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Flow	mgd	--	--	2.0	--	--	DC
BOD_5	mg/L	30	45	60	--	--	CFR
	% Removal	85	--	--	--	--	CFR
	lbs/day	500[2]	750[2]	1000[2]	--	--	CFR
TSS	mg/L	30	45	60	--	--	CFR
	% Removal	85	--	--	--	--	CFR
	lbs/day	500[2]	750[2]	1000[2]	--	--	CFR
pH	standard units	--	--	--	6.5	8.3	BP
Copper, Total Recoverable	µg/L	9.9	--	24	--	--	CTR
Total Coliform Organisms	MPN/100mL	--	23[3]	240	--	--	DPH
Chloride	mg/L	--	--	175	--	--	BP
EC	µmhos/cm	--	--	--	--	[4]	BP
Boron	mg/L	--	--	1.0	--	--	BP
Un-ionized Ammonia	mg/L	--	--	0.025	--	--	BP
Settleable Solids	mL/L	0.1	--	0.5	--	--	BP
Acute Toxicity	% survival	--	--	--	--	[5]	BP
Chronic Toxicity	TUc	--	--	--	--	[6]	BP

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[1] DC – Based on the design capacity of the Facility.
CFR – Based on secondary treatment standards contained in 40 CFR Part 133.
BP – Based on water quality objectives contained in the Basin Plan.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
DPH – Based on CA Department of Public Health Recommendation.

[2] Based on a flow rate of 2.0 mgd in accordance with Effluent Limitation IV.A.1.f.

[3] Applied as a 7-day median effluent limitation. If discharge occurs for less than 7-days, median of all samples collected during the period of discharge.

[4] The 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 µmhos/cm or a maximum of 1,000 µmhos/cm, whichever is more stringent. When source water is from more than one source, the EC shall be a flow-weighted average of all sources.

[5] 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 consecutive bioassays ---------- 90%

[6] The Discharger shall meet best management practices for compliance with the Basin Plan's narrative toxicity objective, as allowed under 40 CFR 122.44(k).

E. Interim Effluent Limits – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Reclamation Specifications

Treated wastewater discharged for reclamation is regulated under this Order to protect the beneficial uses of groundwater and to meet the requirements of CCR, Title 22.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

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

A. Surface Water

1. CWA section 303(a-c) requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Central Valley Water Board adopted water quality criteria as water quality objectives in the Basin

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Plan. The Basin Plan states that "[t]*he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses.*" The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains receiving surface water limitations based on the Basin Plan numerical and narrative water quality objectives for un-ionized ammonia, bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity.

B. Groundwater

The Basin Plan states that "[g]round waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses." The beneficial use of the groundwater in the Detailed Analysis Unit (DAU) 239 of the Kings Basin Hydrologic Unit (HU) are municipal supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO). Groundwater limitations included in this Order implement Basin Plan water quality objectives for groundwater and protect the beneficial uses of groundwater in the Basin from potential effects of pollutants in Discharge 001 and percolation from the wastewater ponds.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (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 the Facility.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD_5 and TSS reduction requirements). The monitoring frequencies for flow (continuous), settleable solids (daily), pH (daily), BOD_5 (twice per week), and TSS (twice per week) have been retained from Order No. R5-2006-0092. Monthly influent monitoring of EC has been added to this Order.

B. Effluent Monitoring

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

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2. Effluent monitoring frequencies and sample types for flow (continuous), settleable solids (daily), pH (daily), total coliform organisms (daily), EC (daily), ammonia (weekly), un-ionized ammonia (weekly), BOD_5 (twice per week), TSS (twice per week), chloride (once per month), boron (once per month), and total organic carbon (once per quarter), have been retained from Order No. R5-2006-0092 to determine compliance with effluent limitations or are included to determine compliance with new effluent limitations.

3. Monthly effluent monitoring for hardness (as $CaCO_3$) has been included in this Order to evaluate compliance with CTR hardness dependent metals.

4. Effluent monitoring data for metals (besides copper), title 22 constituents, or priority pollutants does not exceed either the Basin Plan objective or CTR criteria. Therefore, this Order reduces the monitoring frequency for metals (besides copper), title 22 constituents, and priority pollutants from twice per year to once per year.

5. Effluent monitoring data indicated copper has reasonable potential to cause or contribute to an exceedance of water quality objectives/criteria; therefore, this Order increases the monitoring frequency for copper from twice per year to once per month.

6. The SIP states that if "…*all reported detection limits of the pollutant in the effluent are greater than or equal to the C [water quality criterion or objective] value, the RWQCB [Regional Water Board] shall establish interim requirements…that require additional monitoring for the pollutant*…." All reported detection limits for silver are greater than or equal to corresponding applicable water quality criteria or objectives. Monitoring for these constituents has been included in this Order in accordance with the SIP.

7. California Water Code section 13176, subdivision (a), states: "The analysis of any material required by [Water Code sections 13000-16104] shall be performed by a laboratory that has accreditation or certification pursuant to Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code." The Department of Public Health certifies laboratories through its Environmental Laboratory Accreditation Program (ELAP).

   Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the Clean Water Act. (Wat. Code §§ 13370, subd. (c), 13372, 13377.) Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with Clean Water Act requirements. (Wat. Code § 13372, subd. (a).) The holding time requirements are 15 minutes for dissolved oxygen and pH, and immediate analysis is required for temperature. (40 C.F.R. § 136.3(e), Table II).

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C. Whole Effluent Toxicity Testing Requirements

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

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

D. Receiving Water Monitoring

1. Surface Water

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

2. Groundwater

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

b. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents which may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide best practicable treatment or control to comply with Resolution No. 68-16. Economic analysis is only one of many factors considered in determining best

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practicable treatment or control. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above background, this permit may be reopened and modified. Until groundwater monitoring is sufficient, this Order contains Groundwater Limitations that allow groundwater quality to be degraded for certain constituents when compared to background groundwater quality, but not to exceed water quality objectives. If groundwater quality has been degraded by the discharge, the incremental change in pollutant concentration (when compared with background) may not be increased. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened and specific numeric limitations established consistent with Resolution No. 68-16 and the Basin Plan.

c. This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with Central Valley Water Board plans and policies, including Resolution No. 68-16. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

E. Other Monitoring Requirements

1. Biosolids Monitoring

Biosolids monitoring is required to ensure compliance with the biosolids disposal requirements contained in the Special Provision contained in section VI.C.5.a. of this Order. Biosolids disposal requirements are imposed pursuant to 40 CFR Part 503 to protect public health and prevent groundwater degradation.

2. Water Supply Monitoring

Water supply monitoring is required to evaluate the source of constituents in the wastewater and to determine compliance with effluent limitations contained in this Order.

3. Ultraviolet Light Disinfection System Monitoring

Ultraviolet light disinfection system specifications and monitoring and reporting is required when the ultraviolet light system becomes operational to ensure that adequate ultraviolet dosage is applied to the wastewater to inactivate pathogens in the wastewater.

4. Pond Monitoring

Wastewater pond monitoring is required to ensure proper operation of the pond. Daily monitoring for flow and freeboard and weekly monitoring for dissolved oxygen and visual observation have been retained from Order No. R5-2006-0092.

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5. Land Discharge Monitoring

Land discharge monitoring is required to ensure that the discharge to the land disposal area complies with the Wastewater Pond and Land Disposal Operating Requirements in section VI.C.4 of this Order.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42.

40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

a. **Mercury.** This provision allows the Central Valley Water Board to reopen this Order in the event mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted. In addition, this Order may be reopened if the Central Valley Water Board determines that a mercury offset program is feasible for dischargers subject to NPDES permits.

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

c. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal

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translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

2. Special Studies and Additional Monitoring Requirements

a. Chronic Whole Effluent Toxicity Requirements. The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at page III-6). Based on whole effluent chronic toxicity testing performed by the Discharger on 3 January 2011, the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

This provision requires the Discharger to develop a TRE Workplan in accordance with USEPA guidance. In addition, the provision provides a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if toxicity has been demonstrated.

Monitoring Trigger. A numeric toxicity monitoring trigger of **> 1** TUc (where TUc = 100/NOEC) is applied in the provision, because this Order does not allow any dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits 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 toxicity before requiring the implementation of a TRE. Due to possible seasonality of the toxicity, the accelerated monitoring should be performed in a timely manner, preferably taking no more than 2 to 3 months to complete.

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

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

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

- Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833-B-99/002, August 1999.
- Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs), EPA/600/2-88/070, April 1989.
- Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition, EPA 600/6-91/003, 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.

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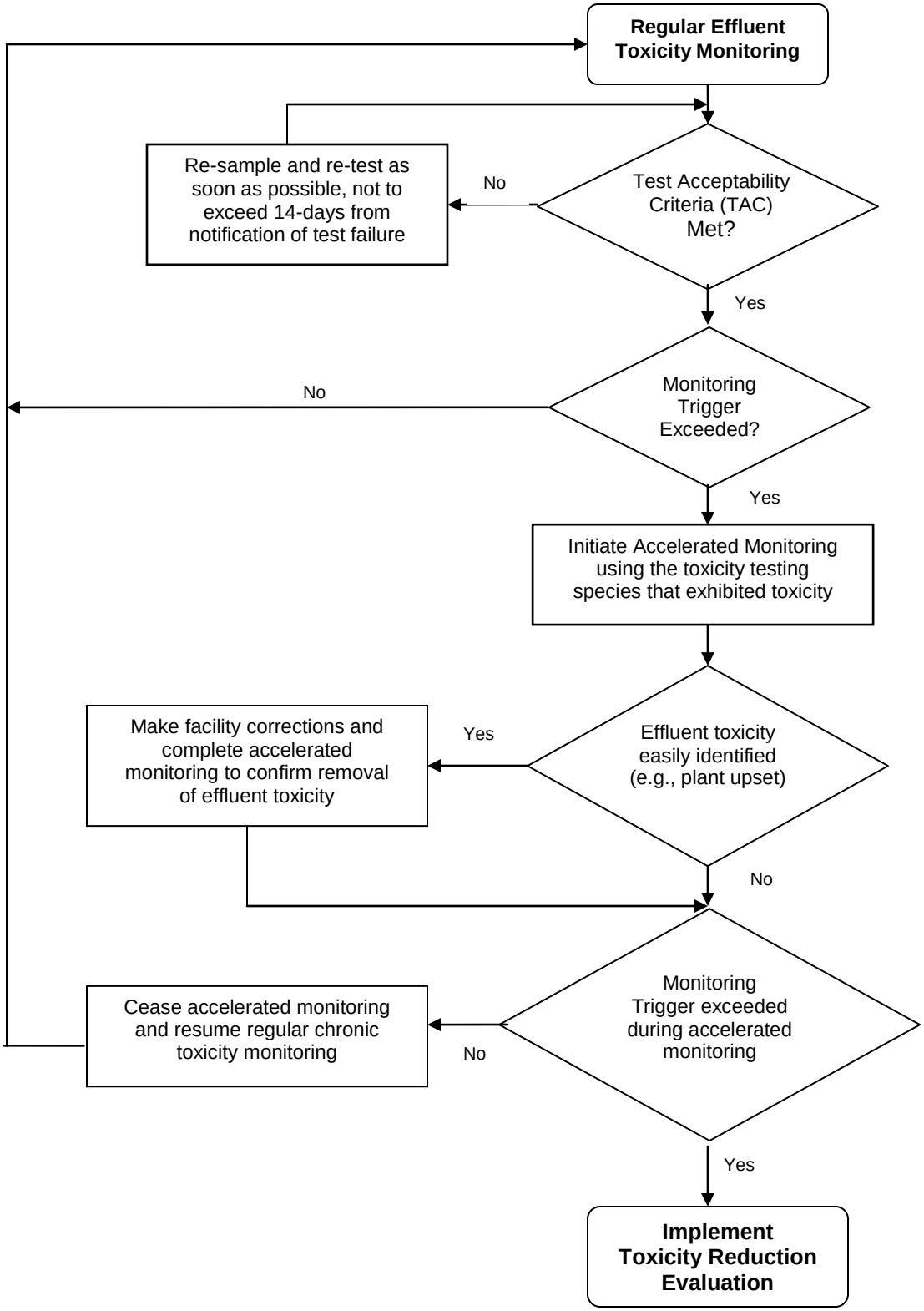
Figure F-1
WET Accelerated Monitoring Flow Chart



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b. Groundwater Monitoring. To determine compliance with the groundwater limitations contained in section V.B. of this Order, this provision requires the Discharger to complete the Hydrologic Investigation and Groundwater Monitoring Tasks required by Order No. R5-2006-0092 within 18 months of installation of additional groundwater monitoring wells.

c. Best Practical Treatment or Control (BPTC). If the groundwater monitoring results show that the discharge of waste is threatening to cause or has caused groundwater to contain waste constituents in concentrations statistically greater than background water quality, the Discharger shall submit, within 48 months following adoption of this Order, a BPTC Evaluation Work Plan. This work plan shall set forth a scope and schedule for a systematic and comprehensive technical evaluation of each component of the Facility's waste management system to determine best practicable treatment or control for each of the waste constituents of concern. The work plan shall include a preliminary evaluation of each component of the waste management system and propose a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed one year.

3. Best Management Practices and Pollution Prevention

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

4. Construction, Operation, and Maintenance Specifications

a. The operation and maintenance specifications for the ultraviolet light disinfection system and wastewater storage ponds are necessary to protect the beneficial uses of the groundwater. The specifications included in this Order for the wastewater storage ponds are retained from Order No R5-2006-0092 and the specification for the ultraviolet light disinfection system are new.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Collection System Requirements.

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

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

6. Other Special Provisions

The design flow rate for treatment at the WWTF is 2.0 mgd. However, a hydraulic and nitrogen balance included in a 30 July 2009, Recycled Water Engineering Report submitted by the Discharger, in response to Provision I. 24 of Order No. R5-2006-0092, indicated that at a flow rate of 2.0 mgd, the Authority does not have a sufficient amount of cropland and would need to discharge to Sand Creek in October and May, which is outside of the allowable time period for discharge to Sand Creek of 1 November through 30 April. The hydraulic and nitrogen balance indicated the Discharger is capable of discharge up to 1.5 mgd without discharging to Sand Creek outside of the permitted time period of 1 November through 30 April. Upon approval by the Executive Officer of an engineering report by the Authority demonstrating (1) the capability to discharge up to 2.0 mgd without discharging outside of the allowable period of discharge to Sand Creek of 1 November through 30 April and/or (2) increased capacity of the wastewater ponds to handle the increased flow, the permitted average dry weather discharge flow shall not exceed 2.0 mgd.

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The Central Valley Water Board is considering the issuance of WDRs that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDRs. The Central Valley Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through publication of a Notice of Public Hearing in *The Dinuba Sentinel*.

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B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Officer at the Central Valley Water Board at the address on the cover page of this Order.

To be fully responded to by staff and considered by the Central Valley Water Board, written comments must be received at the Central Valley Water Board offices by **5:00 p.m. on 29 April 2013**.

C. Public Hearing

The Central Valley Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date:	30/31 May 2013
Time:	8:30 a.m.
Location:	Central Valley Water Quality Control Board 11020 Sun Center Dr., Suite #200 Rancho Cordova, CA 95670

Interested persons are invited to attend. At the public hearing, the Central Valley Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

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

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Board to review the decision of the Central Valley Water Board regarding the final WDRs. The petition must be received by the State Water Board within 30 days of the Central Valley Water Board's action, and must be submitted to the following address:

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

E. Information and Copying

The Report of Waste Discharge, related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the the Central Valley Water Board office located at 1685 "E" Street,

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Fresno, CA 93706 at any time between 8:00 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley 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 Central Valley 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 Scott Hatton at 559-444-2502.

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ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS FOR CONSTITUENTS OF CONCERN

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL[1]	Reasonable Potential
Aluminum	µg/L	430	NA	750	750	NA	NA	NA	NA	50	No
Arsenic	µg/L	2.7	2.4	150	340	150	NA	NA	NA	10	No
Chloride	mg/L	76	NA	230	860	230	NA	NA	175	250	No
Copper	µg/L	85	12	15/9.3[2]	24/14[2]	15/9.3[2]	1,300	NA	NA	1,000	Yes
Lead	µg/L	1.2	<5	3.2	82	3.2	NA	NA	NA	15	No
Nitrate as N	mg/L	15.6	NA	NA	NA	NA	NA	NA	NA	10	No
Silver	µg/L	<5	<5	4.1	4.1	NA	NA	NA	NA	100	No
Electrical Conductivity @25°C	µmhos/ cm	845	NA	NA	NA	NA	NA	NA	source +500 or 1,000 max	900	No
Total Dissolved Solids	mg/L	530	NA	NA	NA	NA	NA	NA	NA	500	No

General Note: All inorganic concentrations are given as a total recoverable.
MEC = Maximum Effluent Concentration
B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
C = Criterion used for Reasonable Potential Analysis
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
Water & Org = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)
Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level
NA = Not Available
< = less than

Footnotes:
(1) Municipal and Domestic Supply is not a Beneficial Use of Sand Creek; therefore, MCL's do not apply.
(2) Criteria based on reasonable worst case hardness/criteria based on lowest upstream hardness.

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ATTACHMENT H – CALCULATION OF WQBELS

Parameter	Units	Most Stringent Criteria			Dilution Factors			HH Calculations			Aquatic Life Calculations									Final Effluent Limitations	
		HH	CMC	CCC	HH	CMC	CCC	ECA_{HH} = $AMEL_{HH}$	AMEL/MDEL $Multiplier_{HH}$	$MDEL_{HH}$	ECA $Multiplier_{acute}$	LTA_{acute}	ECA $Multiplier_{chronic}$	$LTA_{chronic}$	Lowest LTA	AMEL $Multiplier_{95}$	$AMEL_{AL}$	MDEL $Multiplier_{99}$	$MDEL_{AL}$	Lowest AMEL	Lowest MDEL
Copper, Total Recoverable	µg/L	1,000	24	15	0	0	0	1,000	2.44	2,441.2	0.22	5.2	0.40	5.9	5.2	1.87	9.8	4.57	24	9.9	24

[1] USEPA Ambient Water Quality Criteria.

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ATTACHMENT I – EFFLUENT AND RECEIVING WATER CHARACTERIZATION STUDY

I. Background. Sections 2.4.1 through 2.4.4 of the SIP provide minimum standards for analyses and reporting. (Copies of the SIP may be obtained from the State Water Resources Control Board, or downloaded from http://www.waterboards.ca.gov/iswp/index.html). To implement the SIP, effluent and receiving water data are needed for all priority pollutants. Effluent and receiving water pH and hardness are required to evaluate the toxicity of certain priority pollutants (such as heavy metals) where the toxicity of the constituents varies with pH and/or hardness. Section 3 of the SIP prescribes mandatory monitoring of dioxin congeners. In addition to specific requirements of the SIP, the Central Valley Water Board is requiring the following monitoring:

A. Drinking water constituents. Constituents for which drinking water Maximum Contaminant Levels (MCLs) have been prescribed in the California Code of Regulation are included in the *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (Basin Plan). The Basin Plan further requires that, at a minimum, water designated for use as domestic or municipal supply shall not contain concentrations of chemical constituents in excess of the MCLs contained in the California Code of Regulations. Since a beneficial use of Sand Creek is groundwater recharge and a beneficial use of groundwater is municipal and domestic supply, the MCLs apply to groundwater in the vicinity of the discharge.

B. Effluent and receiving water temperature. This is both a concern for application of certain temperature-sensitive constituents, such as fluoride, and for compliance with the Basin Plan's thermal discharge requirements.

C. Effluent and receiving water hardness and pH. These are necessary because several of the CTR constituents are hardness and pH dependent.

II. Monitoring Requirements.

A. Annual Monitoring. Annual priority pollutant samples shall be collected from the effluent and upstream receiving water (EFF-001 and RSW-001) and analyzed for the constituents listed in Table I-1. Annual monitoring shall be conducted and the results of such monitoring shall be submitted to the Central Valley Water Board by 1 February of the year following the year of sampling. Each individual monitoring event shall provide representative sample results for the effluent and upstream receiving water.

B. Concurrent Sampling. Effluent and receiving water sampling shall be performed at approximately the same time, on the same date.

C. Sample type. All effluent samples shall be taken as 24-hour flow proportioned composite samples. All receiving water samples shall be taken as grab samples. Volatile constituents shall be analyzed using the analytical methods described in 40 CFR Part 136 or an EPA approved Alternate Testing Procedure; where no methods

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are specified for a given pollutant that meet a specific reporting limit or method performance standard, an alternate method can be approved by the Central Valley Water Board or the State Water Board.

D. Additional Monitoring/Reporting Requirements. The Discharger shall conduct monitoring and reporting in accordance with the General Monitoring Provisions and Reporting Requirements in Attachment E.

Table I-1. Priority Pollutants and Other Constituents of Concern

CTR #	Constituent	CAS Number	Maximum Reporting Levels µg/L or noted	Required Analytical Test Method
28	1,1-Dichloroethane	75343	1	[1]
30	1,1-Dichloroethene	75354	0.5	[1]
41	1,1,1-Trichloroethane	71556	2	[1]
42	1,1,2-Trichloroethane	79005	0.5	[1]
37	1,1,2,2-Tetrachloroethane	79345	0.5	[1]
75	1,2-Dichlorobenzene	95501	2	[1]
29	1,2-Dichloroethane	107062	0.5	[1]
	cis-1,2-Dichloroethene	156592	--	[1]
31	1,2-Dichloropropane	78875	1	[1]
101	1,2,4-Trichlorobenzene	120821	5	[1]
76	1,3-Dichlorobenzene	541731	0.5	[1]
32	1,3-Dichloropropene	542756	2	[1]
77	1,4-Dichlorobenzene	106467	2	[1]
17	Acrolein	107028	2	[1]
18	Acrylonitrile	107131	2	[1]
19	Benzene	71432	0.5	[1]
20	Bromoform	75252	2	[1]
34	Bromomethane	74839	2	[1]
21	Carbon tetrachloride	56235	0.5	[1]
22	Chlorobenzene (mono chlorobenzene)	108907	2	[1]
24	Chloroethane	75003	2	[1]
25	2- Chloroethyl vinyl ether	110758	1	[1]
26	Chloroform	67663	2	[1]
35	Chloromethane	74873	2	[1]
23	Dibromochloromethane	124481	2	[1]
27	Dichlorobromomethane	75274	2	[1]
36	Dichloromethane	75092	2	[1]
33	Ethylbenzene	100414	2	[1]

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CTR #	Constituent	CAS Number	Maximum Reporting Levels µg/L or noted	Required Analytical Test Method
88	Hexachlorobenzene	118741	1	[1]
89	Hexachlorobutadiene	87683	1	[1]
91	Hexachloroethane	67721	1	[1]
94	Naphthalene	91203	10	[1]
38	Tetrachloroethene	127184	0.5	[1]
39	Toluene	108883	2	[1]
40	trans-1,2-Dichloroethylene	156605	1	[1]
43	Trichloroethene	79016	2	[1]
44	Vinyl chloride	75014	0.5	[1]
	Methyl-tert-butyl ether (MTBE)	1634044	--	[1]
	Trichlorofluoromethane	75694	--	[1]
	1,1,2-Trichloro-1,2,2-Trifluoroethane	76131	--	[1]
	Styrene	100425	--	[1]
	Xylenes	1330207	--	[1]
60	1,2-Benzanthracene	56553	5	[1]
85	1,2-Diphenylhydrazine	122667	1	[1]
45	2-Chlorophenol	95578	5	[1]
46	2,4-Dichlorophenol	120832	5	[1]
47	2,4-Dimethylphenol	105679	2	[1]
49	2,4-Dinitrophenol	51285	5	[1]
82	2,4-Dinitrotoluene	121142	5	[1]
55	2,4,6-Trichlorophenol	88062	10	[1]
83	2,6-Dinitrotoluene	606202	5	[1]
50	2-Nitrophenol	25154557	10	[1]
71	2-Chloronaphthalene	91587	10	[1]
78	3,3'-Dichlorobenzidine	91941	5	[1]
62	3,4-Benzofluoranthene	205992	10	[1]
52	4-Chloro-3-methylphenol	59507	5	[1]
48	4,6-Dinitro-2-methylphenol	534521	10	[1]
51	4-Nitrophenol	100027	10	[1]
69	4-Bromophenyl phenyl ether	101553	10	[1]
72	4-Chlorophenyl phenyl ether	7005723	5	[1]
56	Acenaphthene	83329	1	[1]
57	Acenaphthylene	208968	10	[1]
58	Anthracene	120127	10	[1]
59	Benzidine	92875	5	[1]

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CTR #	Constituent	CAS Number	Maximum Reporting Levels µg/L or noted	Required Analytical Test Method
61	Benzo(a)pyrene (3,4-Benzopyrene)	50328	2	[1]
63	Benzo(g,h,i)perylene	191242	5	[1]
64	Benzo(k)fluoranthene	207089	2	[1]
65	Bis(2-chloroethoxy) methane	111911	5	[1]
66	Bis(2-chloroethyl) ether	111444	1	[1]
67	Bis(2-chloroisopropyl) ether	39638329	10	[1]
68	Bis(2-ethylhexyl) phthalate	117817	5	[1]
70	Butyl benzyl phthalate	85687	10	[1]
73	Chrysene	218019	5	[1]
81	Di-n-butylphthalate	84742	10	[1]
84	Di-n-octylphthalate	117840	10	[1]
74	Dibenzo(a,h)-anthracene	53703	0.1	[1]
79	Diethyl phthalate	84662	10	[1]
80	Dimethyl phthalate	131113	10	[1]
86	Fluoranthene	206440	10	[1]
87	Fluorene	86737	10	[1]
90	Hexachlorocyclopentadiene	77474	5	[1]
92	Indeno(1,2,3-c,d)pyrene	193395	0.05	[1]
93	Isophorone	78591	1	[1]
98	N-Nitrosodiphenylamine	86306	1	[1]
96	N-Nitrosodimethylamine	62759	5	[1]
97	N-Nitrosodi-n-propylamine	621647	5	[1]
95	Nitrobenzene	98953	10	[1]
53	Pentachlorophenol	87865	1	[1]
99	Phenanthrene	85018	5	[1]
54	Phenol	108952	1	[1]
100	Pyrene	129000	10	[1]
	Aluminum	7429905	50	[1]
1	Antimony	7440360	5	[1]
2	Arsenic	7440382	10	[1]
15	Asbestos	1332214	--	[1]
	Barium	7440393	--	[1]
3	Beryllium	7440417	2	[1]
4	Cadmium	7440439	0.5	[1]
5a	Chromium (total)	7440473	50	[1]
5b	Chromium (VI)	18540299	10	[1]

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CTR #	Constituent	CAS Number	Maximum Reporting Levels µg/L or noted	Required Analytical Test Method
6	Copper	7440508	5	[1]
14	Cyanide	57125	5	[1]
	Fluoride	7782414	--	[1]
	Iron	7439896	--	[1]
7	Lead	7439921	0.5	[1]
8	Mercury	7439976	0.5	[1]
	Manganese	7439965	--	[1]
	Molybdenum	7439987	--	[1]
9	Nickel	7440020	20	[1]
10	Selenium	7782492	5	[1]
11	Silver	7440224	1	[1]
12	Thallium	7440280	1	[1]
	Tributyltin	688733	--	[1]
13	Zinc	7440666	20	[1]
110	4,4'-DDD	72548	0.05	[1]
109	4,4'-DDE	72559	0.05	[1]
108	4,4'-DDT	50293	0.01	[1]
112	alpha-Endosulfan	959988	0.02	[1]
103	alpha-Hexachlorocyclohexane (BHC)	319846	0.01	[1]
	Alachlor	15972608	--	[1]
102	Aldrin	309002	0.005	[1]
113	beta-Endosulfan	33213659	0.01	[1]
104	beta-Hexachlorocyclohexane	319857	0.005	[1]
107	Chlordane	57749	0.1	[1]
106	delta-Hexachlorocyclohexane	319868	0.005	[1]
111	Dieldrin	60571	0.05	[1]
114	Endosulfan sulfate	1031078	0.05	[1]
115	Endrin	72208	0.01	[1]
116	Endrin Aldehyde	7421934	0.01	[1]
117	Heptachlor	76448	0.01	[1]
118	Heptachlor Epoxide	1024573	0.01	[1]
105	Lindane (gamma-Hexachlorocyclohexane)	58899	0.02	[1]
119	PCB-1016	12674112	0.5	[1]
120	PCB-1221	11104282	0.5	[1]
121	PCB-1232	11141165	0.5	[1]
122	PCB-1242	53469219	0.5	[1]

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CTR #	Constituent	CAS Number	Maximum Reporting Levels µg/L or noted	Required Analytical Test Method
123	PCB-1248	12672296	0.5	[1]
124	PCB-1254	11097691	0.5	[1]
125	PCB-1260	11096825	0.5	[1]
126	Toxaphene	8001352	0.5	[1]
	Atrazine	1912249	--	[1]
	Bentazon	25057890	--	[1]
	Carbofuran	1563662	--	[1]
	2,4-D	94757	--	[1]
	Dalapon	75990	--	[1]
	1,2-Dibromo-3-chloropropane (DBCP)	96128	--	[1]
	Di(2-ethylhexyl)adipate	103231	--	[1]
	Dinoseb	88857	--	[1]
	Diquat	85007	--	[1]
	Endothal	145733	--	[1]
	Ethylene Dibromide	106934	--	[1]
	Glyphosate	1071836	--	[1]
	Methoxychlor	72435	--	[1]
	Molinate (Ordram)	2212671	--	[1]
	Oxamyl	23135220	--	[1]
	Picloram	1918021	--	[1]
	Simazine (Princep)	122349	--	[1]
	Thiobencarb	28249776	--	[1]
16	2,3,7,8-TCDD (Dioxin)	1746016	--	[1]
	2,4,5-TP (Silvex)	93765	--	[1]
	Diazinon	333415	--	[1]
	Chlorpyrifos	2921882	--	[1]
	Ammonia (as N)	7664417	--	[1]
	Chloride	16887006	--	[1]
	Flow		--	[1]
	Hardness (as $CaCO_3$)		--	[1]
	Foaming Agents (MBAS)		--	[1]
	Nitrate (as N)	14797558	--	[1]
	Nitrite (as N)	14797650	--	[1]
	pH		--	[1]
	Phosphorus, Total (as P)	7723140	--	[1]
	Specific conductance (EC)		--	[1]

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CTR #	Constituent	CAS Number	Maximum Reporting Levels µg/L or noted	Required Analytical Test Method
	Sulfate		--	[1]
	Sulfide (as S)		--	[1]
	Sulfite (as SO_3)		--	[1]
	Temperature		--	[1]
	Total Dissolved Solids (TDS)		--	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or an EPA approved Alternate Testing Procedure; where no methods are specified for a given pollutant that meet a specific reporting level or method performance standard, an alternate method can be approved by the Central Valley Water Board or the State Water Board.

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

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

[4] Unfiltered total mercury samples shall be taken using clean hands/dirty hands procedures, as described in USEPA method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2).

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ATTACHMENT J – RECYCLED WATER SIGNAGE

RECYCLED WATER SIGNAGE

WASTE DISCHARGE REQUIREMENTS
ORDER R5-2013-XXXX
CUTLER-OROSI JOINT POWERS WASTEWATER AUTHORITY
WASTEWATER TREATMENT FACILITY
TULARE COUNTY

TENTATIVE ORDER