CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

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

ORDER NO. R5-2008-XXXX
NPDES NO. CA0078093

WASTE DISCHARGE REQUIREMENTS FOR THE CALIFORNIA DEPARTMENT OF CORRECTIONS AND REHABILITATION DEUEL VOCATIONAL INSTITUTION SAN JOAQUIN COUNTY

TENTATIVE DRAFT

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

Table 1. Discharger Information

Discharger	California Department of Corrections and Rehabilitation
Name of Facility	Deuel Vocational Institution
Facility Address	23500 Kasson Road
	Tracy, CA 95376
	San Joaquin
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

The discharge by the California Department of Corrections and Rehabilitation 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	Treated Municipal Wastewater	37° 45' 02" N	121° 19' 35" W	Deuel Drain
003	Industrial Storm Water	37º 44' 46" N	121º 19' 35" W	Deuel Drain
004	Industrial Storm Water and Contaminated Groundwater	37º 44' 58" N	121º 19' 35" W	Deuel Drain

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	**<Adoption Date>**
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 expiration date**

IT IS HEREBY ORDERED, that Order No. R5-2003-0065, and as modified by Resolution No. R5-2005-0151, is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

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

Table of Contents

I. Facility Information 1
II. Findings 1
III. Discharge Prohibitions 8
IV. Effluent Limitations and Discharge Specifications 9
A. Effluent Limitations – Discharge Point No. 001 9
1. Final Effluent Limitations – Discharge Point No. 001 9
2. Interim Effluent Limitations – Discharge Point No. 001 10
B. Effluent Limitations – Discharge Point No. 003 11
1. Final Effluent Limitations – Discharge Point No. 003 11
C. Effluent Limitations – Discharge Point No. 004 11
1. Final Effluent Limitations – Discharge Point No. 004 11
D. Land Discharge Specifications 12
E. Reclamation Specifications 12
V. Receiving Water Limitations 13
A. Surface Water Limitations 13
B. Groundwater Limitations 15
VI. Provisions 16
A. Standard Provisions 16
B. Monitoring and Reporting Program (MRP) Requirements 20
C. Special Provisions 20
1. Reopener Provisions 20
2. Special Studies, Technical Reports and Additional Monitoring Requirements 21
3. Best Management Practices and Pollution Prevention 24
4. Construction, Operation and Maintenance Specifications 25
5. Special Provisions for Municipal Facilities (POTWs Only) 25
6. Other Special Provisions 27
7. Compliance Schedules 28
VII. Compliance Determination 28

List of Tables

Table 1. Discharger Information ..... Cover
Table 2. Discharge Location ..... Cover
Table 3. Administrative Information ..... Cover
Table 4. Facility Information 1
Table 5. Basin Plan Beneficial Uses 4
Table 6. Effluent Limitations – Discharge Point No. 001 9
Table 7. Interim Effluent Limitations – Discharge Point No. 001 10
Table 8. Effluent Limitations – Discharge Point No. 003 11
Table 9. Effluent Limitations – Discharge Point No. 004 12

List of Attachments

Attachment A – Definitions A-1
Attachment B – Map B-1
Attachment C – Flow Schematic C-1

TENTATIVE DRAFT

Attachment D – Standard Provisions D-1
Attachment E – Monitoring and Reporting Program (MRP) E-1
Attachment F – Fact Sheet F-1
Attachment G – Summary of Reasonable Potential Analysis G-1
Attachment H – Effluent and Receiving Water Monitoring Requirements H-1
Attachment I – Storm Water Pollution Prevention Plan Requirements I-1

TENTATIVE DRAFT

I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	California Department of Corrections and Rehabilitation
Name of Facility	Deuel Vocational Institution
Facility Address	23500 Kasson Road
	Tracy, CA 95376
	San Joaquin County
Facility Contact, Title, and Phone	Jeffrey M. Palumbo, Correctional Plant Manager II, (209)830-3932
Mailing Address	Same as Facility Address
Type of Facility	Publicly Owned Treatment Works (POTW)
Facility Design Flow	0.62 million gallons per day (MGD), 0.70 MGD upon completion of the tertiary treatment plant

TENTATIVE DRAFT

II. FINDINGS

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

A. Background. The California Department of Corrections and Rehabilitation (hereinafter Discharger) is currently discharging pursuant to Order No. R5-2003-0065 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0078093. The Discharger submitted a Report of Waste Discharge, dated 2 October 2007, and applied for a NPDES permit renewal to discharge up to 0.62 MGD of treated wastewater from Deuel Vocational Institution, hereinafter Facility. The application was deemed complete on 19 October 2007.

B. Facility Description. The Discharger is the owner and operator of a wastewater collection, treatment, and disposal system, and provides sewerage service to the Deuel Vocational Institution, a California prison facility. The treatment system consists of headworks (screening, grit removal, comminutors), extended aeration in an oxidation ditch, secondary clarifier, multimedia filters, chlorine contact basin, and dechlorination. The Discharger has an unlined aerated lagoon with a surface area of 2.24 acres, which is used to accept backwash water from the filters prior to recycling flow through the treatment process, and the lagoon additionally provides treatment redundancy for the oxidation ditch and secondary clarifier, as well as flow equalization during periods of high plant inflow. The site also has two unlined facultative ponds, which are currently used for retaining storm water on site and in the event of a process upset condition. Sludge is dewatered in sand drying beds and transported for offsite disposal.

The Discharger is constructing a new wastewater treatment facility to comply with the effluent limitations contained in this Order. The new facility liquid treatment process includes a headworks with coarse screening, grit removal and fine screening, alkalinity

addition, anoxic zones for nitrate removal, extended aeration, membrane bioreactor process tanks for solids separation/filtration, ultraviolet (UV) light disinfection, and effluent cooling towers. Sludge will be managed in a solids storage tank, thickened by gravity belt thickener process, and dewatered using a belt filter press. After mechanical dewatering, sludge will be either further solar dried, weather permitting, or directly hauled for offsite disposal.

Wastewater is discharged from Discharge Point No. 001 (see table on cover page) to Deuel Drain, a water of the United States, within the Sacramento – San Joaquin Delta, and tributary to Paradise Cut and Old River. The Discharger also discharges industrial storm water from Discharge Point No. 003 and industrial storm water commingled with contaminated groundwater from Discharge Point No. 004 to Deuel Drain. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the current and future wastewater treatment plants.

TENTATIVE DRAFT

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

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G through I are also incorporated into this Order.

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

F. Technology-based Effluent Limitations*.* Section 301(b) of the CWA and implementing USEPA permit regulations at Title 40 of the Code of Federal Regulations (CFR) Part 122.44 (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 and Best Professional Judgment (BPJ) in accordance with 40 CFR 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. Water Quality-based Effluent Limitations (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. This Order contains requirements, expressed as a technology equivalence requirement, that are necessary to achieve water quality standards. The Regional Water Board has considered the factors listed in CWC Section 13241 in establishing these requirements. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements, is discussed in the Fact Sheet.

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 Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised October 2007), for the Sacramento and San Joaquin River Basins* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan.

The Basin Plan at page II-2.00 states that the "…*beneficial uses of any specifically identified water body generally apply to its tributary streams*." The Basin Plan does not specifically identify beneficial uses for Deuel Drain, but does identify present and potential uses for Sacramento – San Joaquin Delta, to which Deuel Drain, via Paradise Cut and Old River, is tributary. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, as discussed in detail in the Fact Sheet, beneficial uses applicable to Deuel Drain are as follows:

TENTATIVE DRAFT

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001, 003, and 004	Deuel Drain (Sacramento-San Joaquin Delta)	Existing: Municipal and domestic supply (MUN); agricultural supply, including stock watering (AGR), industrial service supply (IND); industrial process supply (PROC); water contact recreation (REC-1); non-contact water recreation, including aesthetic enjoyment (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); warm and cold migration of aquatic organisms (MIGR); warm spawning, reproduction, and/or early development (SPWN); wildlife habitat (WILD); and navigation (NAV).

The Basin Plan includes a list of Water Quality Limited Segments (WQLSs), which are defined as "…*those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 CFR 130, et seq.)*." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to WQLSs. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment.*" Deuel Drain is not listed as a WQLS in the 303(d) list of impaired water bodies. However, the Southern Delta, to which Deuel Drain is tributary, is listed as a WQLS for chlorpyrifos, DDT, diazinon, electrical conductivity, exotic species, Group A pesticides, mercury, and unknown toxicity in the 303(d) list of impaired water bodies.

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

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

I. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty 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 Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on 28 April 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant

TENTATIVE DRAFT

objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on 18 May 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on 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.

TENTATIVE DRAFT

K. Compliance Schedules and Interim Requirements. In general, an NPDES permit must include final effluent limitations that are consistent with Clean Water Act section 301 and with 40 CFR 122.44(d). There are exceptions to this general rule. The State Water Board has concluded that where the Regional Water Board's Basin Plan allows for schedules of compliance and the Regional Water Board is newly interpreting a narrative standard, it may include schedules of compliance in the permit to meet effluent limits that implement a narrative standard. See In the Matter of Waste Discharge Requirements for Avon Refinery (State Water Board Order WQ 2001-06 at pp. 53-55). See also Communities for a Better Environment et al. v. State Water Resources Control Board, 34 Cal.Rptr.3d 396, 410 (2005). The Basin Plan for the Sacramento and San Joaquin Rivers includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives that are adopted after the date of adoption of the Basin Plan, which was 25 September 1995 (see Basin Plan at page IV-16). Consistent with the State Water Board's Order in the CBE matter, the Regional Water Board has the discretion to include compliance schedules in NPDES permits when it is including an effluent limitation that is a "new interpretation" of a narrative water quality objective. This conclusion is also consistent with the United States Environmental Protection Agency policies and administrative decisions. See, e.g., Whole Effluent Toxicity (WET) Control Policy. The Regional Water Board, however, is not required to include a schedule of compliance, but may issue a Time Schedule Order pursuant to Water Code section 13300 or a Cease and Desist Order pursuant to Water Code section 13301 where it finds that the discharger is violating or threatening to violate the permit. The Regional Water Board will consider the merits of each case in determining whether it is appropriate to include a compliance schedule in a permit, and, consistent with the Basin Plan, should consider feasibility of achieving compliance, and must impose a schedule that is as short as practicable to achieve compliance with the objectives, criteria, or effluent limit based on the objective or criteria.

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

for the compliance schedules and interim effluent limitations is included in the Fact Sheet.

L. Alaska Rule. On 30 March 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 CFR 131.21; 65 Fed. Reg. 24641 (April 27, 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) and total suspended solids (TSS) at Discharge Point No. 001 and restrictions for certain volatile organic compounds (VOCs) at Discharge Point Nos. 003 and 004. The WQBELs consist of restrictions on ammonia, bromoform, chlorodibromomethane, chlorine residual, dichlorobromomethane, electrical conductivity, nitrate, pathogens, pH, and temperature at Discharge Point No. 001. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order includes new effluent limitations for BOD_5, TSS, and pathogens to meet numeric objectives or protect beneficial uses. The rationale for including these limitations is explained in the Fact Sheet. In addition, the Regional Water Board has considered the factors in Water Code section 13241 in establishing these requirements.

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 are based on the CTR-SIP, which was approved by USEPA on 1 May 2001. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 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 [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 is consistent with the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that

TENTATIVE DRAFT

existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

O. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent that those in Order No. R5-2003-0065. As discussed in detail in the Fact Sheet this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

P. 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 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

Q. 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 Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

R. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections V.B, VI.A.2.v, VI.C.2.b, and VI.C.2.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.

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

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

TENTATIVE DRAFT

III. DISCHARGE PROHIBITIONS

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

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

C. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.

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

TENTATIVE DRAFT

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 001

1. Final Effluent Limitations – Discharge Point No. 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E):

a. The Discharger shall maintain compliance with the effluent limitations specified in the following table:

Table 6. Effluent Limitations – Discharge Point No. 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants						
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	10[4]	15[4]	20[4]	--	--
	lbs/day[1]	52[4]	78[4]	103[4]	--	--
pH	standard units	--	--	--	6.5	8.5
Total Suspended Solids (TSS)	mg/L	10[4]	15[4]	20[4]	--	--
	lbs/day[1]	52[4]	78[4]	103[4]	--	--
Priority Pollutants						
Bromoform	µg/L	4.3	--	5.8	--	--
Chlorodibromomethane	µg/L	0.41	--	0.58	--	--
Dichlorobromomethane	µg/L	0.56	--	0.82	--	--
Non-Conventional Pollutants						
Ammonia Nitrogen, Total (as N)[4]	mg/L	0.7[4]	--	2.2[4]	--	--
	lbs/day[1]	3.6[4]	--	11.4[4]	--	--
Chlorine, Total Residual	mg/L	--	--	0.019	--	--
Electrical Conductivity @ 25°C	µmhos/cm	700[2]	--	--	--	--
		1,000[3]				
Nitrate Nitrogen, Total (as N)	mg/L	10	--	--	--	--
Total Coliform Organisms	MPN/100 mL	--	--	--	--	240

[1] Based on a design flow of 0.62 MGD.
[2] Applies from 1 April through 31 August.
[3] Applies from 1 September through 31 March.
[4] Effective 31 December 2009

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

TENTATIVE DRAFT

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; and
   ii. 90%, median for any three consecutive bioassays.

d. **Temperature.** The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20°F.

e. **Total Residual Chlorine.** Effluent total residual chlorine shall not exceed:

   i. 0.011 mg/L, as a 4-day average

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

   i. 2.2 most probable number (MPN) per 100 mL, as a 7-day median; and
   ii. 23 MPN/100 mL, more than once in any 30-day period.

g. **Average Dry Weather Flow.** The average dry weather flow shall not exceed 0.62 MGD.

2. Interim Effluent Limitations – Discharge Point No. 001

During the period beginning the Permit Effective Date and ending on 31 December 2009, the Discharger shall maintain compliance with the following limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP. These interim effluent limitations shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the time period indicated in this provision.

a. The Discharger shall maintain compliance with the interim effluent limitations specified in the following table:

Table 7. Interim Effluent Limitations – Discharge Point No. 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Ammonia Nitrogen, Total (as N)	mg/L	--	--	4.4	--	--
	lbs/day[1]	--	--	22.8	--	--
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	20	30	40	--	--
	lbs/day[1]	103	155	207	--	--
Total Suspended Solids	mg/L	20	30	40	--	--
	lbs/day[1]	103	155	207	--	--

[1] Based on a design flow of 0.62 MGD.

TENTATIVE DRAFT

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

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

TENTATIVE DRAFT

B. Effluent Limitations – Discharge Point No. 003

1. Final Effluent Limitations – Discharge Point No. 003

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 003, with compliance measured at Monitoring Location EFF-003 as described in the attached MRP (Attachment E):

a. The Discharger shall maintain compliance with the effluent limitations specified in the following table:

Table 8. Effluent Limitations – Discharge Point No. 003

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Priority Pollutants					
Benzene	µg/L	0.5	1.0	--	--
Bromoform	µg/L	0.5	1.0	--	--
Chlorodibromomethane	µg/L	0.5	1.0	--	--
Chloroform	µg/L	0.5	1.0	--	--
Ethylbenzene	µg/L	0.5	1.0	--	--
Tetrachloroethylene	µg/L	0.5	1.0	--	--
Toluene	µg/L	0.5	1.0	--	--
Trichloroethylene	µg/L	0.5	1.0	--	--
Non-Conventional Pollutants					
cis-1,2-Dichloroethylene	µg/L	0.5	1.0	--	--
Xylene	µg/L	0.5	1.0	--	--

C. Effluent Limitations – Discharge Point No. 004

1. Final Effluent Limitations – Discharge Point No. 004

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 004, with compliance measured at Monitoring Location EFF-004 as described in the attached MRP (Attachment E):

a. The Discharger shall maintain compliance with the effluent limitations specified in the following table:

Table 9. Effluent Limitations – Discharge Point No. 004

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Priority Pollutants					
Benzene	µg/L	0.5	1.0	--	--
Bromoform	µg/L	0.5	1.0	--	--
Chlorodibromomethane	µg/L	0.5	1.0	--	--
Chloroform	µg/L	0.5	1.0	--	--
Ethylbenzene	µg/L	0.5	1.0	--	--
Tetrachloroethylene	µg/L	0.5	1.0	--	--
Toluene	µg/L	0.5	1.0	--	--
Trichloroethylene	µg/L	0.5	1.0	--	--
Non-Conventional Pollutants					
cis-1,2-Dichloroethylene	µg/L	0.5	1.0	--	--
Xylene	µg/L	0.5	1.0	--	--

TENTATIVE DRAFT

D. Land Discharge Specifications

[Not Applicable]

E. Reclamation Specifications

[Not Applicable]

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

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

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

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

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

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

5. **Dissolved Oxygen**: The dissolved oxygen concentration to be reduced below 5.0 mg/L at any time.

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

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

8. **pH**. The pH to be depressed below 6.5, raised above 8.5, nor changed by more than 0.5 units.

9. **Pesticides**:

   a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
   b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
   c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by USEPA or the Executive Officer;
   d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR 131.12.);
   e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;

TENTATIVE DRAFT

f. Pesticides to be present in concentration in excess of the maximum contaminant levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15; nor
g. Thiobencarb to be present in excess of 1.0 µg/L.

10. **Radioactivity**:

a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
b. Radionuclides to be present in excess of the maximum contaminant levels specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.

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

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

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

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

15. **Temperature**:

a. A zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of the main river channel at any point; nor
b. A surface water temperature rise greater than 4°F above the natural temperature of the receiving water at any time or place.

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

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

a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs.
b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
c. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.

TENTATIVE DRAFT

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

B. Groundwater Limitations

Release of waste constituents from any storage, treatment, or disposal component associated with the wastewater treatment plant, in combination with other sources, shall not cause the following in the underlying groundwater:

1. Adversely impact beneficial uses or exceed water quality objectives.

2. Any constituent concentration, when compared with background, shall not be incrementally increased beyond the current concentration in down gradient wells.

TENTATIVE DRAFT

VI. PROVISIONS

A. Standard Provisions

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

2. The Discharger shall comply with the following provisions:

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

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

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

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

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

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

      The causes for modification include:

      - *New regulations.* New regulations have been promulgated under Section 405(d) of the Clean Water Act, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

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

   c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under Section

TENTATIVE DRAFT

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

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

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

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

   ii. controls any pollutant limited in the Order.

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

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

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

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

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

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

j. Safeguard to electric power failure:

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

TENTATIVE DRAFT

ii. Upon written request by the Regional Water Board the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past 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 Regional Water Board.

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

k. The Discharger, upon written request of the Regional Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under Regional Water Board Standard Provision VI.A.2.m.

The technical report shall:

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

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

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

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

l. A publicly owned treatment works (POTW) whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry

TENTATIVE DRAFT

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 Regional Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Regional Water Board may extend the time for submitting the report.

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

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

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

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

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

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

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

TENTATIVE DRAFT

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

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

v. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, 1-hour average effluent limitation, or receiving water limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within 5 days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Attachment D, Section V.E.1 [40 CFR 122.41(l)(6)(i)].

TENTATIVE DRAFT

B. Monitoring and Reporting Program (MRP) Requirements

1. The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

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

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

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

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

c. **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 an effluent mass and/or concentration effluent limitation imposed. If the Regional Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to evaluate mercury mass loading limitations 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 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.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity (Discharge Point No. 001).** For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V). Furthermore, this Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the toxicity numeric monitoring trigger established in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE Work Plan, and take actions to mitigate the impact of the discharge and prevent reoccurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes requirements for the Discharger to develop and submit a TRE Work Plan and includes procedures for accelerated chronic toxicity monitoring and TRE initiation.

i. **Toxicity Reduction Evaluation (TRE) Work Plan. Within 90 days of the effective date of this Order,** the Discharger shall submit to the Regional Water Board a TRE Work Plan for approval by the Executive Officer. The TRE Work Plan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Work Plan must be developed in accordance with USEPA guidance[1] and be of adequate detail to allow the Discharger to immediately initiate a TRE as required in this Provision.

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

TENTATIVE DRAFT

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

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

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

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

iii. **Numeric Monitoring Trigger.** The numeric toxicity monitoring trigger is > **1 TUc** (where TUc = 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.

iv. **Accelerated Monitoring Specifications.** If the monitoring trigger is exceeded during regular chronic toxicity testing, within 14 days of notification by the laboratory of the test results, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of four (4) chronic toxicity tests in a 6-week period (i.e. one test every 2 weeks) using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:

a) If the results of four (4) consecutive accelerated monitoring tests do not exceed the monitoring trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.

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

c) If the result of any accelerated toxicity test exceeds the monitoring trigger, the Discharger shall cease accelerated monitoring and initiate a TRE to investigate the cause(s) of, and identify corrective actions to reduce or

TENTATIVE DRAFT

eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of the test results exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:

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

b. **Groundwater Monitoring.** To determine compliance with Groundwater Limitations contained in section V.B., the Discharger shall implement the Groundwater Monitoring and Work Plan (dated 16 January 2004) that was submitted to the Regional Water Board on 22 January 2004 (and as modified by the Discharger in subsequent quarterly reports in 2005). All monitoring wells shall comply with the appropriate standards as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 74-81 (December 1981), and any more stringent standards adopted by the Discharger or County pursuant to CWC section 13801.

If the monitoring shows that any constituent concentrations are increased above background water quality, the Discharger shall perform BPTC evaluation tasks as required in Section VI.C.2.c below.

c. **BPTC Evaluation Tasks**. If the groundwater monitoring results conducted under this Order 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 propose a work plan and schedule for providing BPTC as required by Resolution 68-16. The work plan and schedule shall be submitted, within 6 months the after the first full year of monitoring that documents constituent concentrations increased beyond background water quality. The technical report describing the work plan and schedule shall contain a preliminary evaluation of each component and propose a time schedule for completing the comprehensive technical evaluation.

Following completion of the comprehensive technical evaluation, the Discharger shall submit a technical report describing the evaluation's results and critiquing each evaluated component with respect to BPTC and minimizing the discharge's impact on groundwater quality. Where deficiencies are documented, the technical report shall provide recommendations for necessary modifications (e.g., new or revised source control measures, Facility component upgrade and retrofit) to achieve BPTC and identify the source of funding and proposed schedule for modifications. The schedule shall be as short as practicable but in no case shall completion of the necessary modifications exceed 4 years past the Executive Officer's determination of the adequacy of the comprehensive technical evaluation, unless the schedule is reviewed and specifically approved by the Regional Water Board. The technical report shall include specific methods the Discharger proposes as a means to measure processes and assure

TENTATIVE DRAFT

continuous optimal performance of BPTC measures. The Discharger shall comply with the following compliance schedule in implementing the work required by this Provision:

Task	Compliance Date
i. Submit technical report: work plan and schedule for comprehensive evaluation	**Within 6 months** after first full year of monitoring that documents constituent concentrations increased beyond background water quality.
ii. Commence comprehensive evaluation	**30 days** following Executive Officer approval of Task i.
iii. Complete comprehensive evaluation	As established by Task i and/or 2 years following Task ii, whichever is sooner.
iv. Submit technical report: comprehensive evaluation results	**60 days** following completion of Task iii.
v. Submit annual report, if applicable, describing the overall status of BPTC implementation and compliance with groundwater limitations over the past reporting year	To be submitted in accordance with the MRP (Attachment E, Section X.D.1).

TENTATIVE DRAFT

3. Best Management Practices and Pollution Prevention

a. The Discharger shall submit within 90 days of the effective date of this Order an updated Storm Water Pollution Prevention Plan (SWPPP) that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff from being discharged directly to waters of the State. The SWPPP shall be developed in accordance with the requirements contained in Attachment I.

The SWPPP shall include Best Management Practices (BMPs) that entail site-specific plans and procedures implemented and/or to be implemented to prevent hazardous waste/material from being discharged to waters of the State. The BMPs shall be consistent with the general guidance contained in the USEPA *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-B-93-004). In particular, a risk assessment of each area identified by the Discharger shall be performed to determine the potential for hazardous or toxic waste/material discharge to surface waters.

The SWPPP shall also include a Spill Contingency Plan to prevent the unauthorized discharge of industrial waste and sewage spills and overflows from Discharge Point Nos. 003 and 004 and to ensure that the effluent from Discharge Point Nos. 003 and 004 consists only of storm water runoff.

The SWPPP shall cover all areas of the Facility and shall include an updated drainage map for the Facility. The Discharger shall identify on a map of appropriate scale the areas that contribute runoff to the permitted discharge point; describe the activities in each area and the potential for contamination of storm water runoff and the discharge of hazardous waste/material; and address

the feasibility of containment and/or treatment of storm water. The plan shall be reviewed annually. Updated information shall be submitted to the Regional Water Board within 30 days of revision.

4. Construction, Operation and Maintenance Specifications

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

b. **Ultraviolet (UV) Disinfection System Operating Specifications**

The Discharger shall operate the UV disinfection system to provide a minimum UV dose per bank of 100 millijoules per square centimeter (mJ/cm^2) at peak daily flow, unless otherwise approved by the California Department of Public Health, and shall maintain an adequate dose for disinfection while discharging to Deuel Drain, unless otherwise approved by the California Department of Public Health.

i. The Discharger shall provide continuous, reliable monitoring of flow, UV transmittance, UV power, and turbidity.

ii. The Discharger shall operate the treatment system to insure that turbidity prior to disinfection shall not exceed 2 NTU as a daily average, and 5 NTU more than 5 percent of the time within a 24-hour period, and 10 NTU, at any time.

iii. The UV transmittance (at 254 nanometers) in the wastewater exiting the UV disinfection system shall not fall below 55 percent of maximum at any time.

iv. 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.

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

vi. 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.

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

5. Special Provisions for Municipal Facilities (POTWs Only)

a. **Sludge/Biosolids Discharge Specifications**

i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner approved by the

TENTATIVE DRAFT

Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste,* as set forth in Title 27, CCR, Division 2, Subdivision 1, section 20005, et seq. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy these specifications.

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

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

iv. The use and disposal of biosolids shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR Part 503. If the State Water Board and the Regional 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.

b. **Biosolids Disposal Requirements**

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

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

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

c. **Biosolids Storage Requirements**

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

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

TENTATIVE DRAFT

years. This requirement shall not apply to the solar drying of biosolids during the non-flood season (April through October), provided that biosolids are removed and disposed of prior to 1 November of each year.

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

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

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

Regardless of the coverage obtained under Order 2006-0003, the Discharger's collection system is part of the treatment system that is subject to this Order. As such, pursuant to federal regulations, the Discharger must properly operate and maintain its collection system [40 CFR 122.41(e)], report any non-compliance [40 CFR 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR 122.41(d)].

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

6. Other Special Provisions

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

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons

TENTATIVE DRAFT

responsible for contact with the Regional Water Board and a statement. The statement shall comply with the signatory and certification requirements in the Federal Standard Provisions (Attachment D, Section V.B.) and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

TENTATIVE DRAFT

7. Compliance Schedules

a. **Title 22 Disinfection Requirements. By 31 December 2009**, wastewater discharged to Deuel Drain shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the DPH reclamation criteria, Title 22 CCR, Division 4, Chapter 3, (Title 22) or equivalent. Until final compliance, the Discharger shall submit progress reports in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.).

VII. COMPLIANCE DETERMINATION

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

A. **BOD_5 and TSS Effluent Limitations**. Compliance with the final effluent limitations for BOD_5 and TSS required in section IV.A.1.a shall be ascertained by 24-hour composite samples. Compliance with the final effluent limitations contained in section IV.A.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**. The average dry weather 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 3 consecutive dry weather months (e.g., July, August, and September).

C. **Total Coliform Organisms Effluent Limitations**. 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 which analyses have been completed. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 2.2 per 100 milliliters, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period.

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 or Control (BPTC): BPTC is a requirement of State Water Resources Control Board Resolution 68-16 – "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (referred to as the "Antidegradation Policy"). BPTC is the treatment or control of a discharge necessary to assure that, *"(a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."* Pollution is defined in CWC Section 13050(l). In general, an exceedance of a water quality objective in the Basin Plan constitutes "pollution".

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

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

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

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

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the

TENTATIVE DRAFT

arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

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

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

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

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

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

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

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

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

TENTATIVE DRAFT

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

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

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

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

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

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

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

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

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

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

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through

TENTATIVE DRAFT

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

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

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

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

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

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

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

where:

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

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including

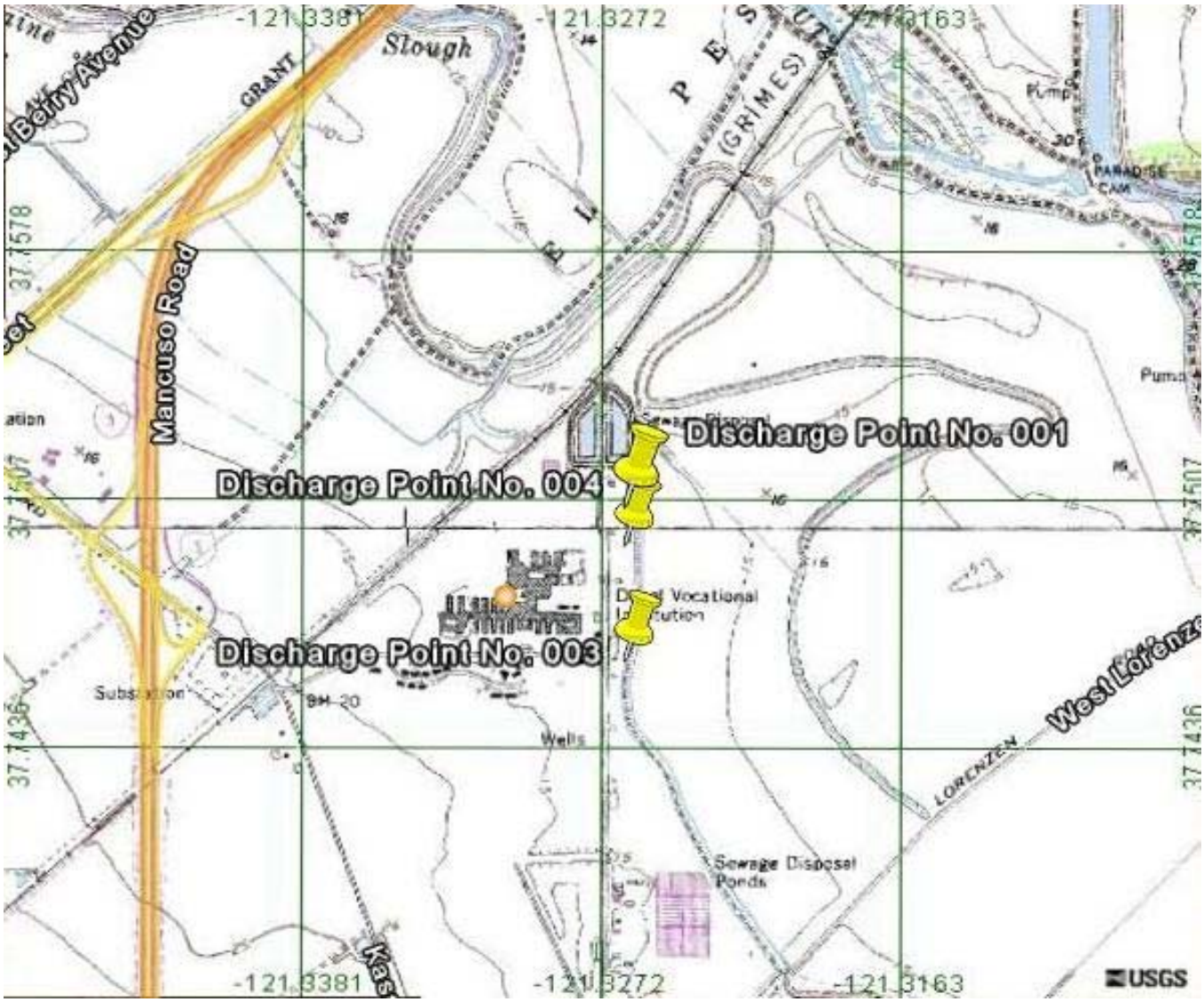
TENTATIVE DRAFT

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.)

TENTATIVE

DRAFT

ATTACHMENT B – MAP



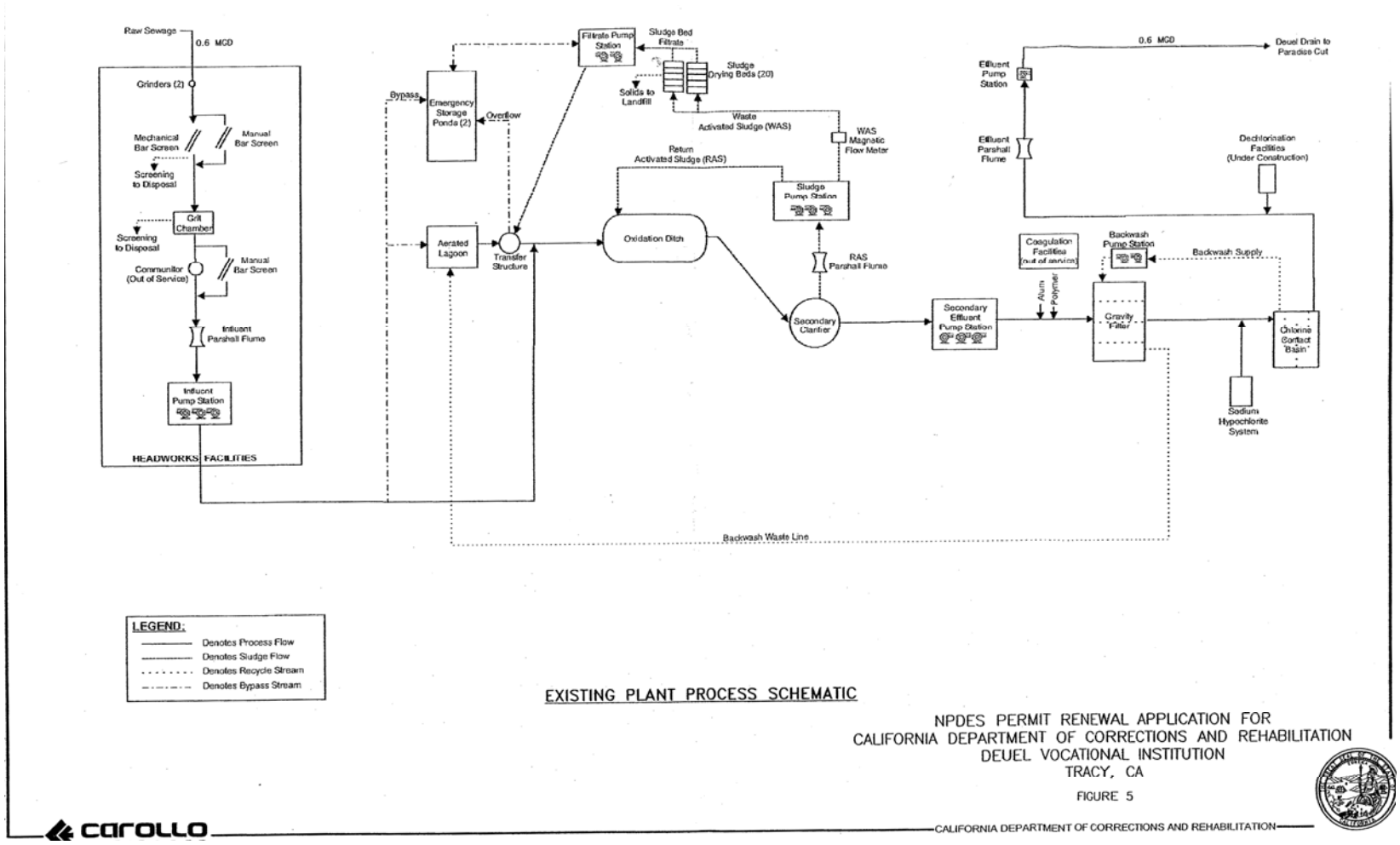
SITE LOCATION MAP

CALIFORNIA DEPARTMENT OF CORRECTIONS AND REHABILITATION
DEUEL VOCATIONAL INSTITUTION
SAN JOAQUIN COUNTY

TENTATIVE DRAFT

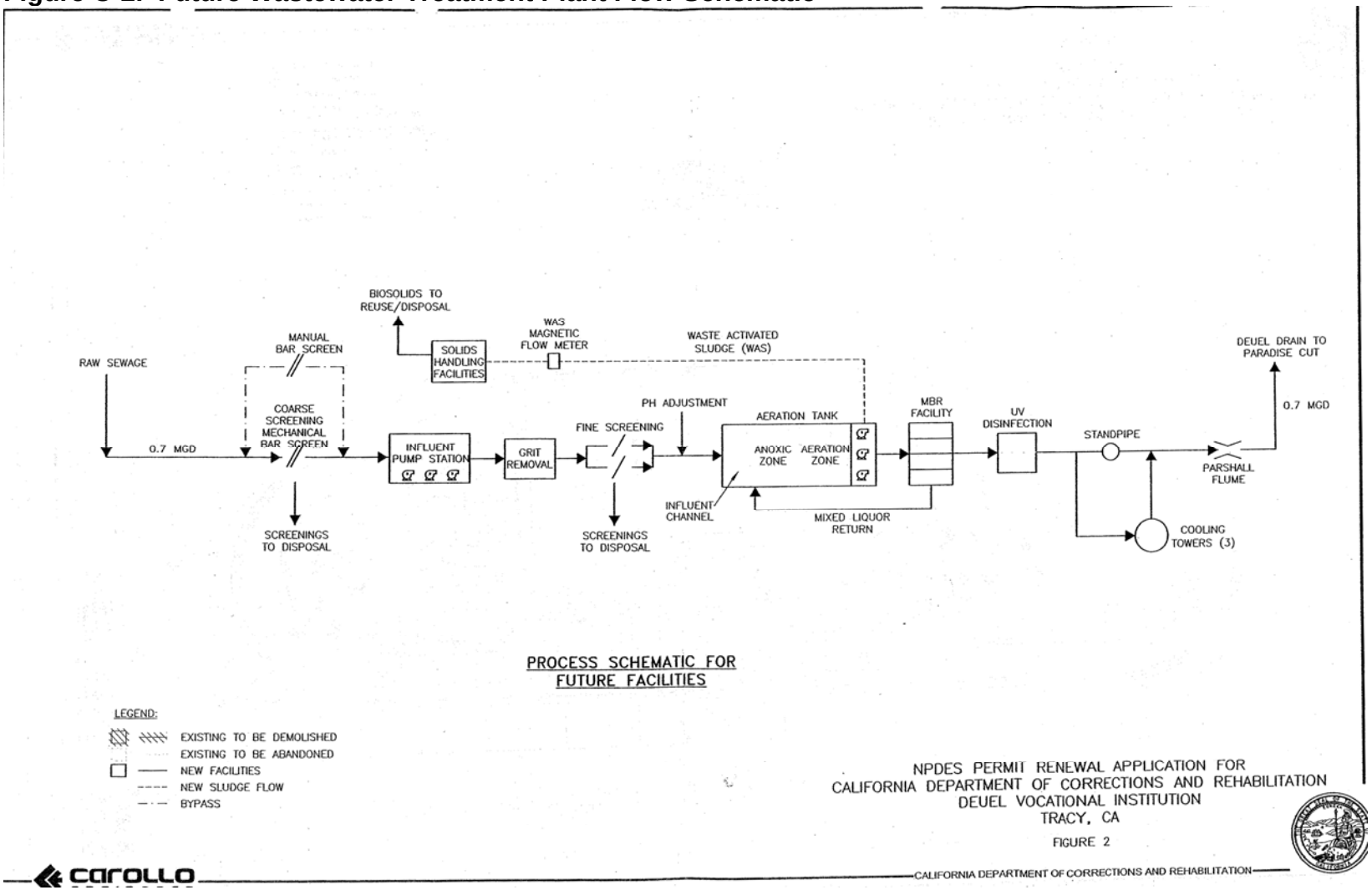
ATTACHMENT C – FLOW SCHEMATIC

Figure C-1. Existing Wastewater Treatment Plant Flow Schematic



TENTATIVE DRAFT

Figure C-2. Future Wastewater Treatment Plant Flow Schematic



TENTATIVE DRAFT

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

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

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

F. Inspection and Entry

The Discharger shall allow the Regional Water 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); Wat. Code, §13383):

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

TENTATIVE DRAFT

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

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR 122.41(m)(4)(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 Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR 122.41(m)(4)(i)(C).)

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

TENTATIVE DRAFT

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 Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR 122.41(l)(3) and 122.61.)

TENTATIVE DRAFT

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 Regional Water Board Executive Officer at any time. (40 CFR 122.41(j)(2).)

B. Records of monitoring information shall include:

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

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

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

TENTATIVE DRAFT

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 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 Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 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 Regional 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 Standard

TENTATIVE DRAFT

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

TENTATIVE DRAFT

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 Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR 122.41(l)(4)(i).)

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

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

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall

also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR 122.41(l)(6)(i).)

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

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

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

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

F. Planned Changes

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

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

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

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

G. Anticipated Noncompliance

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

TENTATIVE DRAFT

H. Other Noncompliance

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

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

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

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

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

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

TENTATIVE DRAFT

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

Attachment E – Monitoring and Reporting Program (MRP) E-1
I. General Monitoring Provisions E-1
II. Monitoring Locations E-2
III. Influent Monitoring Requirements E-2
A. Monitoring Location INF-001 ..... E-2
IV. Effluent Monitoring Requirements E-3
A. Monitoring Location EFF-001 ..... E-3
B. Monitoring Location EFF-003 ..... E-4
C. Monitoring Location EFF-004 ..... E-5
V. Whole Effluent Toxicity Testing Requirements E-6
VI. Land Discharge Monitoring Requirements E-9
VII. Reclamation Monitoring Requirements E-9
VIII. Receiving Water Monitoring Requirements – Surface Water and Groundwater E-9
A. Monitoring Location RSW-001 and RSW-002 ..... E-9
B. Monitoring Locations GW-001 through GW-006 ..... E-10
IX. Other Monitoring Requirements E-11
A. Biosolids E-11
B. Municipal Water Supply E-11
C. Ultraviolet Disinfection System E-12
X. Reporting Requirements E-12
A. General Monitoring and Reporting Requirements E-12
B. Self Monitoring Reports (SMRs) E-14
C. Discharge Monitoring Reports (DMRs) E-15
D. Other Reports E-15

List of Tables

Table E-1. Monitoring Station Locations E-2
Table E-2. Influent Monitoring E-3
Table E-3. Effluent Monitoring – EFF-001 ..... E-3
Table E-4. Effluent Monitoring – EFF-003 ..... E-4
Table E-5. Effluent Monitoring – EFF-004 ..... E-5
Table E-6. Chronic Toxicity Testing Dilution Series E-8
Table E-7. Receiving Water Monitoring Requirements E-10
Table E-8. Groundwater Monitoring Requirements[1] E-10
Table E-9. Municipal Water Supply Monitoring Requirements[1] E-11
Table E-10. Ultraviolet Disinfection Monitoring Requirements E-12
Table E-11. Monitoring Periods and Reporting Schedule E-15
Table E-12. Reporting Requirements for Special Provisions Progress Reports E-16

TENTATIVE DRAFT

TENTATIVE DRAFT

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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

I. GENERAL MONITORING PROVISIONS

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

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

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

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

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

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	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.
001	EFF-001	Downstream from the last connection through which wastes can be admitted to the outfall.
003	EFF-003	Downstream from the last connection through which wastes can be admitted to the outfall.
004	EFF-004	Downstream from the last connection through which wastes can be admitted to the outfall.
--	RSW-001	450 feet upstream from the point of discharge of Discharge Point No. 003 in Deuel Drain.
--	RSW-002	450 feet downstream from the point of discharge of Discharge Point No. 001 in Deuel Drain.
--	GW-001	Groundwater monitoring well (identified as MW-12 in the Discharger's Groundwater Monitoring Reports).
--	GW-002	Groundwater monitoring well (identified as MW-19 in the Discharger's Groundwater Monitoring Reports).
--	GW-003	Groundwater monitoring well (identified as MW-20 in the Discharger's Groundwater Monitoring Reports).
--	GW-004	Groundwater monitoring well (identified as MW-21 in the Discharger's Groundwater Monitoring Reports).
--	GW-005	Groundwater monitoring well (identified as MW-22 in the Discharger's Groundwater Monitoring Reports).
--	GW-006	Groundwater monitoring well (identified as MW-23 in the Discharger's Groundwater Monitoring Reports).
--	BIO-001	A location where a representative sample of biosolids can be obtained.
--	SPL-001	A location where a representative sample of the municipal water supply can be obtained.
--	UVS-001	Ultraviolet (UV) Disinfection System.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the wastewater treatment plant at INF-001 as follows:

TENTATIVE DRAFT

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Meter	Continuous	--
Conventional Pollutants				
Biochemical Oxygen Demand (5-day @ 20°C)[1]	mg/L	24-hour Composite[2]	2/Week	[3]
pH	standard units	Grab[4]	1/Week	[3]
Total Suspended Solids[1]	mg/L	24-hour Composite[2]	2/Week	[3]
Non-Conventional Pollutants				
Electrical Conductivity	µmhos/cm	Grab[4]	1/Week	[3]
Total Dissolved Solids	mg/L	Grab[4]	1/Month	[3]

1 BOD_5 and TSS samples shall be collected on the same day as the effluent samples.
2 24-hour flow proportional composite samples.
3 Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.
4 Grab samples shall not be collected at the same time each day.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor treated wastewater at EFF-001 as follows. 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	--
Conventional Pollutants				
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-hour Composite[1]	2/Week	[2]
pH[3]	standard units	Grab[4]	1/Day	[2]
Total Suspended Solids	mg/L	24-hr Composite[1]	2/Week	[2]
Priority Pollutants				
Benzene	µg/L	Grab[4]	1/Month	[2,5]
Bromoform	µg/L	Grab[4]	1/Month	[2,5]
Chlorodibromomethane	µg/L	Grab[4]	1/Month	[2,5]
Dichlorobromomethane	µg/L	Grab[4]	1/Month	[2,5]
Mercury, Total Recoverable	ng/L	Grab[4]	1/Month	[2,6]
Remaining Priority Pollutants	µg/L	Grab	[7]	[2,5]
Non-Conventional Pollutants				
Ammonia Nitrogen, Total (as N)	mg/L	Grab[4]	1/Week	[2]
Chlorine, Total Residual	mg/L	Grab[4]	1/Day[8]	[2]

TENTATIVE DRAFT

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chloride	mg/L	Grab[4]	2/Year[9]	[2]
Electrical Conductivity @ 25°C	µmhos/cm	Grab[4]	1/Month	[2]
Methylmercury	ng/L	Grab[4]	1/Month	[2,6]
Nitrate Nitrogen, Total (as N)	mg/L	Grab[4]	1/Month	[2]
Temperature[3]	°F	Grab[4]	1/Day	[2]
Total Coliform Organisms	MPN/100 mL	Grab[4]	1/Week	[2]
Total Dissolved Solids	mg/L	Grab[4]	2/Year[9]	[2]
Turbidity	NTU	Meter	Continuous[10]	[2]

1 24-hour flow proportional composite samples.

2 Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

3 pH and temperature data shall be collected on the same date and at the same time as ammonia sampling.

4 Grab samples shall not be collected at the same time each day.

5 For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.

6 Unfiltered methylmercury and 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 Levels, for collection of equipment blanks (section 9.4.4.2), and shall be analyzed by USEPA Method 1630/1631 (Revision E) with a method detection limit of 0.02 ng/L for methylmercury and 0.2 ng/L for total mercury.

7 Priority pollutants and other constituents of concern shall be sampled quarterly during the third year following the date of permit adoption and shall be conducted concurrently with upstream receiving water monitoring for hardness (as $CaCO_3$) and pH. The Discharger is not required to conduct effluent monitoring for priority pollutants that have already been sampled in a given quarter, as required in Table E-3. See Attachment H for more detailed requirements related to performing the priority pollutant monitoring.

8 Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.01 mg/L. Monitoring for chlorine residual is only required when the Facility is using chlorine-based disinfection systems or using chlorine for maintenance purposes.

9 Monitoring shall be conducted twice per year; once during the dry season (April through October) and once during the wet season (November through March).

10 Monitoring for turbidity to commence 31 December 2009.

B. Monitoring Location EFF-003

1. The Discharger shall monitor industrial storm water at EFF-003 as follows:

Table E-4. Effluent Monitoring – EFF-003

Parameter	Units	Sample Type	Minimum Sampling Frequency [1]	Required Analytical Test Method
Flow	MGD	Totalizer Reading	1/Day	--
Conventional Pollutants				
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	Grab[2]	1/Month	[3]
Priority Pollutants				
Benzene	µg/L	Grab[2]	1/Month	[3,4]
Bromoform	µg/L	Grab[2]	1/Month	[3,4]
Chlorodibromomethane	µg/L	Grab[2]	1/Month	[3,4]

TENTATIVE DRAFT

Parameter	Units	Sample Type	Minimum Sampling Frequency [1]	Required Analytical Test Method
Chloroform	µg/L	Grab[2]	1/Month	[3,4]
Ethylbenzene	µg/L	Grab[2]	1/Month	[3,4]
Tetrachloroethylene	µg/L	Grab[2]	1/Month	[3,4]
Toluene	µg/L	Grab[2]	1/Month	[3,4]
Trichloroethylene	µg/L	Grab[2]	1/Month	[3,4]
Non-Conventional Pollutants				
cis-1,2-Dichloroethylene	µg/L	Grab[2]	1/Month	[3]
Electrical Conductivity @ 25°C	µmhos/cm	Grab[2]	1/Month	[3]
Total Coliform Organisms	MPN/100 mL	Grab[2]	1/Month	[3]
Total Dissolved Solids	mg/L	Grab[2]	1/Month	[3]
Xylene	µg/L	Grab[2]	1/Month	[3]

1 Monitoring only required when a discharge to Deuel Drain occurs.

2 Grab samples shall not be collected at the same time each day.

3 Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

4 For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.

C. Monitoring Location EFF-004

1. The Discharger shall monitor industrial storm water at EFF-004 as follows:

Table E-5. Effluent Monitoring – EFF-004

Parameter	Units	Sample Type	Minimum Sampling Frequency [1]	Required Analytical Test Method
Flow	MGD	Totalizer Reading	1/Day	--
Conventional Pollutants				
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	Grab[2]	1/Month	[3]
Priority Pollutants				
Benzene	µg/L	Grab[2]	1/Month	[3,4]
Bromoform	µg/L	Grab[2]	1/Month	[3,4]
Chlorodibromomethane	µg/L	Grab[2]	1/Month	[3,4]
Chloroform	µg/L	Grab[2]	1/Month	[3,4]
Ethylbenzene	µg/L	Grab[2]	1/Month	[3,4]
Tetrachloroethylene	µg/L	Grab[2]	1/Month	[3,4]
Toluene	µg/L	Grab[2]	1/Month	[3,4]
Trichloroethylene	µg/L	Grab[2]	1/Month	[3,4]
Non-Conventional Pollutants				
cis-1,2-Dichloroethylene	µg/L	Grab[2]	1/Month	[3]
Electrical Conductivity @ 25°C	µmhos/cm	Grab[2]	1/Month	[3]
Total Coliform Organisms	MPN/100 mL	Grab[2]	1/Month	[3]

TENTATIVE DRAFT

Parameter	Units	Sample Type	Minimum Sampling Frequency [1]	Required Analytical Test Method
Total Dissolved Solids	mg/L	Grab[2]	1/Month	[3]
Xylene	µg/L	Grab[2]	1/Month	[3]

[1] Monitoring only required when a discharge to Deuel Drain occurs.

[2] Grab samples shall not be collected at the same time each day.

[3] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

[4] For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. **Acute Toxicity Testing.** The Discharger shall conduct acute toxicity testing at Discharge Point No. 001 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 quarterly acute toxicity testing, concurrent with effluent ammonia sampling.

2. *Sample Types* – For static non-renewal and static renewal testing, the samples shall be flow-through or grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location EFF-001.

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

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

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

6. *Ammonia Toxicity* – The acute toxicity testing may be modified to eliminate ammonia-related toxicity until 31 December 2009, at which time the Discharger shall be required to implement the test without modifications to eliminate ammonia toxicity.

TENTATIVE DRAFT

B. **Chronic Toxicity Testing**. The Discharger shall conduct three species chronic toxicity testing at Discharge Point No. 001 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 quarterly three species chronic toxicity testing.

2. *Sample Types* – Effluent samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location specified in the Monitoring and Reporting Program. The receiving water control shall be a grab sample obtained from the RSW-001 sampling location, as identified in the Monitoring and Reporting Program.

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

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

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

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

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

7. *Dilutions* – For regular chronic toxicity testing it is not necessary to perform the test using a dilution series. The test may be performed using 100 percent effluent. For accelerated and/or TRE monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-6, below. The receiving water control shall be used as the diluent (unless the receiving water is toxic).

TENTATIVE DRAFT

Table E-6. 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 Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or

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

9. *Ammonia Toxicity* – The chronic toxicity testing may be modified to eliminate ammonia-related toxicity until 31 December 2009, at which time the Discharger shall be required to implement the test without modifications to eliminate ammonia toxicity.

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

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

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

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

   b. The statistical methods used to calculate endpoints;

TENTATIVE DRAFT

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

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

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

Additionally, the monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or TRE. (Note: items a through c, above, are only required when testing is performed using the full dilution series.)

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

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

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

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

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

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

VI. LAND DISCHARGE MONITORING REQUIREMENTS

[Not Applicable]

VII. RECLAMATION MONITORING REQUIREMENTS

[Not Applicable]

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location RSW-001 and RSW-002

1. The Discharger shall monitor Deuel Drain at RSW-001 and RSW-002 as follows:

TENTATIVE DRAFT

Table E-7. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Conventional Pollutants				
pH[1]	standard units	Grab[2]	2/Month	[3]
Non-Conventional Pollutants				
Ammonia Nitrogen, Total (as N)	mg/L	Grab[2]	1/Month	[3]
Ammonia Nitrogen, Un-ionized (as N)	mg/L	Grab[2]	1/Month	[3]
Chlorine, Total Residual	mg/L	Grab[2]	2/Month	[3]
Dissolved Oxygen	mg/L	Grab[2]	2/Month	[3]
Electrical Conductivity @ 25°C	µmhos/cm	Grab[2]	2/Month	[3]
Fecal Coliform Organisms	MPN/100 mL	Grab[2]	2/Month	[3]
Nitrate Nitrogen, Total (as N)	mg/L	Grab[2]	1/Month	[3]
Standard Minerals[4]	µg/L	Grab[2]	1/Year	[3]
Temperature[1]	°F	Grab[2]	2/Month	[3]
Turbidity	NTU	Grab[2]	2/Month	[3]
Total Dissolved Solids	mg/L	Grab[2]	1/Month	[3]

[1] pH and temperature data shall be collected on the same date and at the same time as ammonia sampling.
[2] Grab samples shall not be collected at the same time each day.
[3] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.
[4] Standard minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

TENTATIVE DRAFT

B. Monitoring Locations GW-001 through GW-006

1. The Discharger shall monitor groundwater at GW-001 through GW-006 as follows:

Table E-8. Groundwater Monitoring Requirements[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	[2]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	[2]
Groundwater Elevation	Feet	Measure	1/Quarter	--
pH	standard units	Grab	1/Quarter	[2]
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	[2]
Total Coliform Organisms	MPN/100 mL	Grab	1/Quarter	[2]
Total Dissolved Solids	mg/L	Grab	1/Quarter	[2]

[1] Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged at least three well volumes until pH and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet.
[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

1. Monitoring Location BIO-001

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

b. 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.

c. Upon removal of sludge, the Discharger shall submit characterization of sludge quality, including sludge percent solids and the most recent quantitative results of chemical analysis for the metals listed in 40 CFR Part 122, Appendix D, Table III (excluding total phenols). In addition to USEPA's POTW *Sludge Sampling and Analysis Guidance Document*, August 1989, suggested methods for analysis of sludge are provided in USEPA publications titled "*Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*" and "*Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater*". Recommended analytical holding times for sludge samples should reflect those specified in 40 CFR 136.6.3(e).

B. Municipal Water Supply

1. Monitoring Location SPL-001

The Discharger shall monitor the municipal water supply at SPL-001 as follows. A sampling station shall be established where a representative sample of the municipal water supply can be obtained. Municipal water supply samples shall be collected at approximately the same time as effluent samples.

Table E-9. Municipal Water Supply Monitoring Requirements[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Electrical Conductivity @ 25°C	µmhos/cm	Grab[2]	1/Month	[3]
Total Dissolved Solids	mg/L	Grab	1/Month	[3]
Standard Minerals[4]	mg/L	Grab	1/Quarter	[3]

1 Water supply monitoring to commence upon startup of the new reverse osmosis water treatment plant.

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

3 Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

4 Standard minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

TENTATIVE DRAFT

C. Ultraviolet Disinfection System

1. Monitoring Location UVS-001

Starting on 31 December 2009, the Discharger shall monitor the ultraviolet disinfection system at UVS-001 as follows.

Table E-10. Ultraviolet Disinfection Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate	MGD	Meter	Continuous
Turbidity[1]	NTU	Meter	Continuous
Number of UV banks in operation	Number	Meter	Continuous
UV Transmittance	Percent (%)	Meter	Continuous
UV Power Setting	Percent (%)	Meter	Continuous
UV Dose[2]	MW-sec/cm^2	Calculated	Continuous

[1] Report daily average and maximum turbidity of the influent to the UV system. If the influent exceeds 10 NTU, collect a sample for total coliform organisms and report the duration of the turbidity exceedance.

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

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

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

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

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

TENTATIVE DRAFT

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

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

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

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

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

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

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

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

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

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

TENTATIVE DRAFT

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. Monitoring results shall be submitted to the Regional Water Board by the **first day** of the second month following sample collection. Quarterly and annual monitoring results shall be submitted by the **first day of the second month following each calendar quarter, semi-annual period, and year**, respectively.

3. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements. The highest daily maximum for the month, monthly and weekly averages, and medians, and removal efficiencies (%) for BOD_5 and TSS, shall be determined and recorded as needed to demonstrate compliance.

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

5. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

6. A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions.

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

TENTATIVE DRAFT

Regional Water Quality Control Board
Central Valley Region
NPDES Compliance and Enforcement Unit
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670-6114

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

Table E-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 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 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 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 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 first day of the month	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
1/Quarter	Closest of 1 January, 1 April, 1 July, or 1 October following (or on) permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 1 February
2/year	Closest of 1 January or 1 July following (or on) permit effective date	1 January through 30 June 1 July through 31 December	1 August 1 February
1/year	1 January following (or on) permit effective date	1 January through 31 December	1 February

C. Discharge Monitoring Reports (DMRs)

[Not Applicable]

D. Other Reports

1. **Progress Reports.** As specified in the Special Provisions, progress reports shall be submitted in accordance with the following reporting requirements. At minimum, the progress reports shall include a discussion of the status of final compliance, whether the Discharger is on schedule to meet the final compliance date, and the remaining tasks to meet the final compliance date.

TENTATIVE DRAFT

Table E-12. Reporting Requirements for Special Provisions Progress Reports

Special Provision	Reporting Requirements
Annual report describing the overall status of BPTC implementation (if applicable) and compliance with groundwater limitations over the past reporting year (section VI.C.2.c)	**1 June**, annually (if applicable)
Title 22 Disinfection Requirements (section VI.C.7.a) and compliance with Effluent Limitations IV.A.1.a. for ammonia.	**1 June**, annually, until final compliance

TENTATIVE DRAFT

2. Within **60 days** of permit adoption, the Discharger shall submit a report outlining minimum levels, method detection limits, and analytical methods for approval, with a goal to achieve detection levels below applicable water quality criteria. At a minimum, the Discharger shall comply with the monitoring requirements for CTR constituents as outlined in Section 2.3 and 2.4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, adopted 2 March 2000 by the State Water Resources Control Board. All peaks identified by analytical methods shall be reported.

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

4. **Annual Operations Report**. By **30 January** of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

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

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

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

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

   e. The Discharger may also be requested to submit an annual report to the Regional Water Board with both tabular and graphical summaries of the

monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

TENTATIVE DRAFT

ATTACHMENT F – FACT SHEET

Table of Contents

Attachment F – Fact Sheet F-3
I. Permit Information F-3
II. Facility Description F-5
A. Description of Wastewater and Biosolids Treatment or Controls F-5
B. Discharge Points and Receiving Waters F-7
C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data F-8
D. Compliance Summary F-10
E. Planned Changes F-13
III. Applicable Plans, Policies, and Regulations F-14
A. Legal Authority F-14
B. California Environmental Quality Act (CEQA) F-14
C. State and Federal Regulations, Policies, and Plans F-14
D. Impaired Water Bodies on CWA 303(d) List F-17
E. Other Plans, Polices and Regulations F-18
IV. Rationale For Effluent Limitations and Discharge Specifications F-18
A. Discharge Prohibitions F-19
B. Technology-Based Effluent Limitations F-20
1. Scope and Authority F-20
2. Applicable Technology-Based Effluent Limitations F-21
C. Water Quality-Based Effluent Limitations (WQBELs) F-24
1. Scope and Authority F-24
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives F-24
3. Determining the Need for WQBELs F-26
4. WQBEL Calculations F-42
5. Whole Effluent Toxicity (WET) F-47
D. Final Effluent Limitations F-49
1. Mass-based Effluent Limitations F-49
2. Averaging Periods for Effluent Limitations F-49
3. Satisfaction of Anti-Backsliding Requirements F-50
4. Satisfaction of Antidegradation Policy F-52
E. Interim Effluent Limitations F-54
F. Land Discharge Specifications F-55
G. Reclamation Specifications F-55
V. Rationale for Receiving Water Limitations F-56
A. Surface Water F-56
B. Groundwater F-56
VI. Rationale for Monitoring and Reporting Requirements F-57
A. Influent Monitoring F-57
B. Effluent Monitoring F-58
C. Whole Effluent Toxicity Testing Requirements F-60
D. Receiving Water Monitoring F-61
1. Surface Water F-61
2. Groundwater F-62
E. Other Monitoring Requirements F-63

TENTATIVE DRAFT

VII. Rationale for Provisions F-64
A. Standard Provisions F-64
B. Special Provisions F-64
1. Reopener Provisions F-64
2. Special Studies and Additional Monitoring Requirements F-65
3. Best Management Practices and Pollution Prevention F-69
4. Construction, Operation, and Maintenance Specifications F-69
5. Special Provisions for Municipal Facilities (POTWs Only) F-70
6. Other Special Provisions F-71
7. Compliance Schedules F-71
VIII. Public Participation F-71
A. Notification of Interested Parties F-71
B. Written Comments F-72
C. Public Hearing F-72
D. Waste Discharge Requirements Petitions F-72
E. Information and Copying F-73
F. Register of Interested Persons F-73
G. Additional Information F-73

List of Tables

Table F-1. Facility Information F-3
Table F-2. Historic Effluent Limitations and Monitoring Data – Discharge Point No. 001 ..... F-8
Table F-3. Historic Effluent Limitations and Monitoring Data – Discharge Point No. 003 ..... F-9
Table F-4. Historic Effluent Limitations and Monitoring Data – Discharge Point No. 004 ..... F-10
Table F-5. Summary of Technology-based Effluent Limitations – Discharge Point No. 001 F-22
Table F-6. Summary of Technology-based Effluent Limitations – Discharge Point Nos. 003 and 004 ..... F-23
Table F-7. Salinity Water Quality Criteria/Objectives – Discharge Point No. 001 ..... F-37
Table F-8. WQBEL Calculations for Ammonia at Discharge Point No. 001 ..... F-44
Table F-9. WQBEL Calculations for Bromoform at Discharge Point No. 001 ..... F-44
Table F-10. WQBEL Calculations for Chlorodibromomethane at Discharge Point No. 001. F-44
Table F-11. WQBEL Calculations for Dichlorobromomethane at Discharge Point No. 001. F-45
Table F-12. WQBEL Calculations for Tetrachloroethylene at Discharge Point No. 003 ..... F-45
Table F-13. WQBEL Calculations for Tetrachloroethylene at Discharge Point No. 004 ..... F-45
Table F-14. WQBEL Calculations for Trichloroethylene at Discharge Point No. 004 ..... F-45
Table F-15. Summary of WQBELs – Discharge Point No. 001 ..... F-46
Table F-16. Summary of WQBELs – Discharge Point No. 003 ..... F-46
Table F-17. Summary of WQBELs – Discharge Point No. 004 ..... F-46
Table F-18. Summary of Chronic Aquatic Toxicity Results – Discharge Point No. 001 ..... F-47
Table F-19. Summary of Final Effluent Limitations – Discharge Point No. 001 ..... F-53
Table F-20. Summary of Final Effluent Limitations – Discharge Point No. 003 ..... F-54
Table F-21. Summary of Final Effluent Limitations – Discharge Point No. 004 ..... F-54
Table F-22. Interim Effluent Limitations – BOD_5 and TSS at Discharge Point No. 001 ..... F-55
Table F-23. Interim Effluent Limitation Calculation Summary F-55

TENTATIVE DRAFT

ATTACHMENT F – FACT SHEET

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

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

TENTATIVE DRAFT

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	XXXXXXXXXX
Discharger	California Department of Corrections and Rehabilitation
Name of Facility	Deuel Vocational Institution
Facility Address	23500 Kasson Road
	Tracy, CA 95376
	San Joaquin County
Facility Contact, Title and Phone	Jeffrey M. Palumbo, Correctional Plant Manager, (209) 830-3932
Authorized Person to Sign and Submit Reports	Jeffrey M. Palumbo, Correctional Plant Manager, (209) 830-3932
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Type of Facility	Publicly Owned Treatment Works (POTW)
Major or Minor Facility	Minor
Threat to Water Quality	1
Complexity	A
Pretreatment Program	N
Reclamation Requirements	Not Applicable
Facility Permitted Flow	0.62 million gallons per day (MGD)
Facility Design Flow	0.62 MGD
Watershed	Sacramento – San Joaquin Delta
Receiving Water	Deuel Drain
Receiving Water Type	Inland surface water, Sacramento-San Joaquin Delta

A. California Department of Corrections and Rehabilitation (hereinafter Discharger) is the owner and operator of a wastewater collection, treatment, and disposal system, and provides sewerage service to the Deuel Vocational Institution (hereinafter Facility), a California prison facility.

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 Deuel Drain, tributary to the San Joaquin River via Paradise Cut and the Old River within the Sacramento – San Joaquin Delta, a water of the United States, and is currently regulated by Order No. R5-2003-0065 which was adopted on 25 April 2003 and expired on 1 April 2008.

C. The Regional Water Board adopted Cease and Desist Order (CDO) No. R5-2003-0066 concurrently with Order No. R5-2003-0065. CDO No. R5-2003-0066 included time schedules for compliance with final effluent limitations for electrical conductivity, total dissolved solids, ammonia, nitrate, and average dry weather flow at Discharge Point No. 001 and final effluent limitations for volatile organic compounds (VOCs) at Discharge Point Nos. 003 and 004. CDO No. R5-2003-0066 was rescinded on 21 October 2005.

D. The Regional Water Board adopted Resolution No. R5-2003-0109 on 11 July 2003 to amend Order No. R5-2003-0065. Resolution No. R5-2003-0109 moved the point of compliance for chlorine and clarified monitoring requirements for turbidity and acute toxicity testing.

E. The Regional Water Board adopted Resolution No. R5-2005-0151 on 21 October 2005 to amend Order No. R5-2003-0065. Resolution No. R5-2005-0151 modified the monitoring and reporting program and corrected a typographical error to correct the effective date of Order No. R5-2003-0065.

F. The Regional Water Board adopted CDO No. R5-2005-0152 on 21 October 2005. The Regional Water Board found in CDO No. R5-2005-0152 that compliance time schedules were no longer needed for the flow limitation for Discharge Point No. 001 or for the VOC limitations for Discharge Point No. 003. The CDO extended the time schedules for compliance with final effluent limitations for electrical conductivity, total dissolved solids, ammonia, and nitrate at Discharge Point No. 001 until 1 March 2009 and for final effluent limitations for VOCs from Discharge Point No. 004 until 1 March 2008.

G. The Regional Water Board adopted Resolution No. R5-2008-0119 on 31 July 2008 to amend Order No. R5-2003-0065 to modify the effluent sampling frequency requirements for electrical conductivity, nitrate, and total dissolved solids..

H. The terms and conditions of the current Order in conjunction with Resolution Nos. R5-2003-0109, R5-2005-0151, R%-2008-0119 and CDO No. R5-2005-0152 have been automatically continued and remain in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.

I. The Discharger filed a report of waste discharge and submitted an application for renewal of its WDRs and NPDES permit on 2 October 2007. The application was deemed complete on 19 October 2007. A site visit was conducted on 12 March 2008, to observe operations and collect additional data to develop permit limitations and conditions.

TENTATIVE DRAFT

II. FACILITY DESCRIPTION

The Facility is a correctional facility located east of Tracy, California. It currently serves a population of 5,032, which includes inmates and staff, and is serviced by a sanitary wastewater treatment plant that discharges to Deuel Drain at Discharge Point No. 001. The Discharger also discharges storm water from Discharge Point No. 003 and commingled storm water and contaminated groundwater from Discharge Point No. 004. In addition, wastewater from a dairy farm irrigation system is discharged at Discharge Point No. 002, however this discharge is regulated by the General Order for Existing Milk Cow Dairies (Order No. R5-2007-0035) and is not covered by this Order.

TENTATIVE DRAFT

A. Description of Wastewater and Biosolids Treatment or Controls

1. **Discharge Point No. 001.** The treatment system at the Facility consists of headworks (screening, grit removal, comminutors), extended aeration in an oxidation ditch, secondary clarifier, multimedia filters, and chlorine contact basin. Coagulation and flocculation facilities are available but are not currently in use. Currently, raw sewage flows through a mechanical bar screen for removal of larger objects. Following screening, the wastewater flows via gravity through a grit chamber for removal of smaller grit particles, and through a Parshall flume for flow measurement. After effluent leaves the preliminary treatment stage, it is pumped to the oxidation ditch. The oxidation ditch activated sludge process reduces the biochemical oxygen demand (BOD). Activated sludge from this process is combined with raw, screened wastewater in the oxidation ditch, where the mixed liquor flow is oxidized. Mixed liquor from this process is then directed to the secondary clarifier for settling of solids. Solids removed are returned to the aeration process, and the clarified effluent is pumped through a filtration process to remove most of the remaining solids that do not settle in the secondary clarifier. Following filtration, effluent is disinfected with chlorine, and then dechlorinated, prior to discharge to Deuel Drain from Discharge Point No. 001.

   The Discharger has an unlined aerated lagoon with a surface area of 2.24 acres, which is used to accept backwash water from the filters prior to recycling flow through the treatment process, and the lagoon additionally provides treatment redundancy for the oxidation ditch and secondary clarifier, as well as flow equalization during periods of high plant inflow. The site also has two unlined facultative ponds, which are currently used for retaining storm water on site and in the event of a process upset condition. Sludge is dewatered in sand drying beds and transported for offsite disposal.

2. **Discharge Point Nos. 003 and 004.** Order No. 94-212 regulated discharges from Discharge Point Nos. 003 and 004 as storm water. However, monitoring data over the term of that Order indicated that year-round non-storm water wastewaters were also present in these discharges. Monitoring data also indicated that these discharges were polluted with VOCs, which probably originated from infiltration of contaminated groundwater into the pipelines connected to the outfalls and from discharges of industrial chemical wastes into floor drains that discharge to the outfalls. Due to the co-mingling of storm water, polluted groundwater, and industrial wastewater, these discharges were not covered by State Water Board Order No. 97-

03-DWQ (General Industrial Storm Water Permit No. CAS000001) and were regulated by Order No. R5-2003-0065.

Order No. R5-2003-0065 established effluent limitations for VOCs for Discharge Point Nos. 003 and 004. Because the Discharger was not capable of complying with the effluent limitations, the Regional Water Board adopted CDO No. R5-2003-0066 that provided time schedules for compliance. CDO No. R5-2003-0066 also required the Discharger to identify sources of pollutants entering Discharge Point Nos. 003 and 004, submit and implement a Facilities Pollution Prevention Plan, complete repair of broken storm drain pipelines identified as receiving infiltration of contaminated groundwater, and comply fully with the effluent limitations by 1 March 2005. The Discharger completed the requirements for Discharge Point No. 003 and has come into compliance with the effluent limitations. However, the Discharger was not able to comply with the effluent limitations at Discharge Point No. 004 and required additional time to investigate the sources further and design, install, and put additional control measures into operation in order to comply with the effluent limitations. Therefore, the Regional Water Board adopted CDO No. R5-2005-0152 which established a revised time schedule for the Discharger to comply with effluent limitations at Discharge Point No. 004 by 1 March 2008.

Discharge Point No. 003 represents the discharge from an unlined stormwater collection system that serves the southern side of the Facility. The system consists primarily of storm drain inlets for roadways, parking areas, administrative buildings and area drains in the vicinity of the southern housing wings. All industrial connections to the drains have been removed.

For Discharge Point No. 004, the Discharger has completed lining of the storm water drains to the extent possible, and all other industrial connections to the storm water drains have been removed. There are several below ground storm water drains underneath the prison, and most of them have been lined. However, there are parts of the storm water drains that are located in areas of the prison that cannot be accessed due to security concerns (e.g., underneath the prison perimeter).

The Discharger previously treated sewage spills to the outfalls by “treating in the sump,” which consisted of dripping chlorine into the sump to provide disinfection. Since that time, the Discharger has implemented new operating procedures to reduce the possibility of sewage from a sanitary sewer overflow (SSO) being pumped off grounds through the storm drain system. According to a 30 July 2008 letter from the Discharger to the Regional Water Board, these procedures are as follows:

- Discharge Point No. 003
  - Pumps will only be run on an as-needed basis. In the past, the pumps have been run daily.
  - Pumps will not be turned on (weather permitting) earlier than 1000 hours. This will allow time for the Waste Water Treatment plant staff to be notified of any SSO that may have occurred during the night. Pumps will also be turned off at the end of the day (weather permitting).

TENTATIVE DRAFT

- In the event of a SSO, the contents of the outfall's storm sump will be pumped to Sanitary Sewer Manhole #34, which is across the street from the Potable Water Booster Station. All other SSO procedures will be in effect at this time.

- Discharge Point No. 004
  - Discharge from the storm sump is to remain valved to the Facility holding ponds at the most northeast section of the property (the Discharger has determined that it can contain all discharges from Discharge Point No. 004 on site.)
  - Pumps will only be run on an as-needed basis. In the past, the pumps have been run daily.
  - Pumps will not be turned on (weather permitting) earlier than 1000 hours. This will allow time for the Waste Water Treatment plant staff to be notified on any SSO that may have occurred during the night. Pumps will also be turned off at the end of the day (weather permitting).
  - In the event of a SSO, the contents of the outfall's storm sump will be pumped to the holding ponds. The contents in the holding ponds will then be processed through the wastewater treatment plant. If it is not possible to pump the sump contents to the holding ponds, it will be pumped to the adjacent sanitary sewer headworks. All other SSO procedures will be in effect at this time.

TENTATIVE DRAFT

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 20, T2S, R6E, MDB&M, as shown in Attachment B, a part of this Order.

2. Treated municipal wastewater is discharged from Discharge Point No. 001 to Deuel Drain, a water of the United States, and a tributary to the San Joaquin River within the Sacramento – San Joaquin Delta via Paradise Cut, at a point Latitude 37° 45' 02" N and Longitude 121° 19' 35" W.

3. Storm water is discharged from Discharge Point No. 003 to Deuel Drain at a point Latitude 37° 44' 46" N and Longitude 121° 19' 35" W.

4. Storm water and contaminated groundwater are discharged from Discharge Point No. 004 to Deuel Drain at a point Latitude 37° 44' 58" N and Longitude 121° 19' 35'" W.

5. Deuel Drain borders the Facility on the east. Deuel Drain discharges to a small slough named Paradise Cut. The western end of Paradise Cut discharges to the Old River, which is tributary to the San Joaquin River and Clifton Court Forebay, a drinking water source for Southern California. A dam is located between the eastern end of Paradise Cut and the San Joaquin River that usually prevents Paradise Cut waters from directly entering the San Joaquin River. The Island Reclamation District No. 2062 (District) has the capability to pump San Joaquin River water into Paradise Cut. An agreement between the Discharger and the District allows the District to dilute with San Joaquin River water to reduce the total dissolved solids concentrations before the water is used for agricultural irrigation.

Prior to reaching Paradise Cut, Deuel Drain meanders approximately 1 mile, in which there is contact with two other water bodies. Approximately 700 feet downstream of Discharge Point No. 001, a portion of the water in Deuel Drain enters Tom Paine Slough. Approximately 500 feet further downstream, a man-made storm water channel connects with Deuel Drain. The channel was constructed by the Discharger as an emergency measure to prevent flood waters from inundating the Facility, and frequently contains waters from Deuel Drain because of blockages downstream.

Deuel Drain is an effluent dominated waterbody. Contributing sources of flow are primarily from the Facility, and can include wastewater treatment plant effluent, industrial discharges, runoff from agricultural irrigation, and occasional dairy wastewater discharges. There is also a contribution of irrigation runoff from adjoining farmlands not owned by the Discharger.

TENTATIVE DRAFT

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

Effluent limitations contained in Order No. R5-2003-0065 for discharges from Discharge Point Nos. 001, 003, and 004 (Monitoring Locations EFF-001, EFF-003, and EFF-004) and representative monitoring data from the term of Order No. R5-2003-0065 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data – Discharge Point No. 001

Parameter	Units	Effluent Limitation			Monitoring Data (From November 2004 – October 2007)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	20	30	40	1.3	2.2	3.6
	lbs/day	103	155	207	5	8.8	14.5
Total Suspended Solids	mg/L	20	30	40	1.1	3.4	17.0
	lbs/day	103	155	207	3.0	72	50
Settleable Solids	mL/L	0.1	--	0.2	ND	--	ND
Oil and Grease	mg/L	10	--	15	16[1]	--	16[1]
	lbs/day	52	--	77	72[1]	--	72[1]
Electrical Conductivity @ 25°C	µmhos/cm	700	--	1,600	2,571	--	3,000
Total Dissolved Solids	mg/L	450	--	1,000	1,900	--	2,000
	lbs/day	2,330	--	5,174	10,842	--	10,842
Ammonia Nitrogen, Total (as N)	mg/L	[2]	--	[3]	--	--	4.4
	lbs/day	[4]	--	[4]	--	--	--
Nitrate Nitrogen, Total (as N)	mg/L	10	--	15	106	--	130
	lbs/day	52	--	77	439	--	572
Bromodichloromethane	µg/L	--	--	50[5]	13	--	13
		0.56[6]	--	1.06[6]			
	lbs/day	--	--	0.26[5]	0.059	--	0.059
		0.003[6]	--	0.006[6]			

Parameter	Units	Effluent Limitation			Monitoring Data (From November 2004 – October 2007)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Bromoform	µg/L	--	--	708[5]	130	--	130
		4.3[6]	--	8.39[6]			
	lbs/day	--	--	3.66[5]	0.56	--	0.56
		0.022[6]	--	0.033[6]			
Dibromochloromethane	µg/L	--	--	127[5]	69	--	69
		0.41[6]	--	0.67[6]			
	lbs/day	--	--	0.66[5]	0.308	--	0.308
		0.002[6]	--	0.003[6]			
Chlorine Residual	mg/L	--	--	0.1[7]	--	--	1.2
		0.01[8]	--	0.02[9]			
	lbs/day	--	--	0.52[7]	--	--	5.8
		0.05[8]	--	0.10[9]			
Total Coliform Organisms	MPN/100 mL	2.2[5,10]	--	23	402	--	>1,600
		--	2.2[6,11]				
Turbidity	NTU	2[6,12]	--	5[6]	--	--	--

ND = Not Detected

1 Single value detected from November 2004 through October 2007.
2 Floating effluent limitations calculated in accordance with Attachment F of Order No. R5-2003-0065.
3 Floating effluent limitations calculated in accordance with Attachment G of Order No. R5-2003-0065.
4 Using the value, in mg/L, determined from Attachment F or G of Order No. R5-2003-0065 as appropriate, calculate lbs/day using the formula: z mg/L x 8.345 x 0.62 MGD = y lbs/day.
5 Effective until 1 March 2008.
6 Effective after 1 March 2008.
7 Effective until 1 March 2005.
8 Applied as a 4-day average effluent limitation. Effective after 1 March 2005.
9 Applied as a 1-hour average effluent limitation. Effective after 1 March 2005.
10 Applied as a monthly median effluent limitation.
11 Applied as a weekly median effluent limitation.
12 Applied as a daily average effluent limitation.

Table F-3. Historic Effluent Limitations and Monitoring Data – Discharge Point No. 003

Parameter	Units	Effluent Limitation		Monitoring Data (From November 2004 – October 2007)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
Benzene	µg/L	<0.5	1.0	0.75	0.75
Bromoform	µg/L	<0.5	1.0	1.6	1.6
Chloroform	µg/L	<0.5	1.0	<0.5	<0.5
Dibromochloromethane	µg/L	<0.41	1.0	<0.5	<0.5
cis-1,2-Dichloroethylene	µg/L	<0.5	1.0	<0.5	<0.5
Ethylbenzene	µg/L	<0.5	1.0	<0.5	<0.5
Tetrachloroethene	µg/L	<0.5	1.0	1.5	1.5
Toluene	µg/L	<0.5	1.0	1.0	1.0

TENTATIVE DRAFT

Parameter	Units	Effluent Limitation		Monitoring Data (From November 2004 – October 2007)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
Trichloroethene	µg/L	<0.5	1.0	1.3	1.3
Xylene	µg/L	<0.5	1.0	<0.5	<0.5

Table F-4. Historic Effluent Limitations and Monitoring Data – Discharge Point No. 004

Parameter	Units	Effluent Limitation		Monitoring Data (From November 2004 – October 2007)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge	Highest Daily Discharge
Benzene	µg/L	<0.5	1.0	<0.5	<0.5
Bromoform	µg/L	<0.5	1.0	1.5	1.5
Chloroform	µg/L	<0.5	1.0	<0.5	<0.5
Dibromochloromethane	µg/L	<0.5	1.0	<0.5	<0.5
cis-1,2-Dichloroethylene	µg/L	<0.5	1.0	16.0	16.0
Ethylbenzene	µg/L	<0.5	1.0	0.51	0.51
Tetrachloroethene	µg/L	<0.5	1.0	26.0	26.0
Toluene	µg/L	<0.5	1.0	0.63	0.63
Trichloroethene	µg/L	<0.5	1.0	2.7	2.7
Xylene	µg/L	<0.5	1.0	<0.5	<0.5

TENTATIVE DRAFT

D. Compliance Summary

1. The following paragraphs describe compliance from the period of November 2004 through October 2007.

   a. **Discharge Point No. 001.** Effluent concentrations from Discharge Point No. 001 exceeded the monthly median effluent limitation for total coliform organisms once and the maximum daily effluent limitation (MDEL) periodically. The average monthly effluent limitation (AMEL) and MDEL for oil and grease were exceeded once in November 2004, however, all results since have been below the established limitations. The final 1-hour average effluent limitation for chlorine residual was exceeded twice, and the final 4-day average effluent limitation was exceeded a few times.

   b. **Discharge Point No. 003.** Effluent concentrations from Discharge Point No. 003 exceeded the AMELs for benzene, bromoform, tetrachloroethylene, toluene, trichloroethylene, and xylene a few times. Effluent concentrations from Discharge Point No. 003 periodically exceeded the MDELs for bromoform, tetrachloroethylene, trichloroethylene, and xylene.

   c. **Discharge Point No. 004.** Effluent concentrations from Discharge Point No. 004 exceeded the AMELs for bromoform, ethylbenzene, and toluene once each. Effluent concentrations exceeded the AMELs for tetrachloroethylene, trichloroethylene, and cis-1,2-dichloroethylene several times. Effluent concentrations exceeded the MDELs for bromoform once and

tetrachloroethylene, trichloroethylene, and cis-1,2-dichloroethylene on several occasions.

2. The Regional Water Board issued Administrative Civil Liability Complaint No. R5-2004-0530 on 22 July 2004 for Mandatory Minimum Penalties issued pursuant to CWC section 13385 (h) and/or (i) for violations of Order Nos. 94-212 and R5-2003-0065, which proposed that the Discharger pay $114,000 to the State Water Board's Cleanup and Abatement Account. The violations were summarized as follows:

   a. According to monitoring reports submitted between 1 January 2000 and 13 June 2003, the Discharger committed 18 serious and 19 non-serious effluent violations. During this period, the Discharger exceeded the maximum daily, weekly average, and/or monthly average effluent limitations for BOD_5 24 times (18 of which were serious violations); exceeded the daily maximum total coliform organisms effluent limitation seven times (all of which are non-serious violations), and exceeded the monthly average dry weather and/or peak wet weather effluent flow limitation six times (all non-serious violations).

   b. According to monitoring reports submitted between 14 June 2003 and 31 May 2004, the Discharger committed one serious and seven non-serious violations. During this period, the Discharger exceeded the monthly average oil and grease effluent limitation two times (both non-serious violations), exceeded the daily maximum total coliform organisms effluent limitation one time (a non-serious violation), exceeded the maximum daily effluent limitation for bromodichloromethane one time (a serious violation), and exceeded the monthly average effluent flow limitation four times (all non-serious violations).

3. On 20 August 2004, the Discharger submitted a letter proposing a supplemental enviromental project (SEP). The Discharger also waived its right to a hearing and requested an extension of the 30-day period in which to respond to the Complaint.

   On 9 September 2004, the Regional Water Board received a SEP proposal to implement a Water Education and Outreach Project. The Discharger proposed to provide funding to the DeltaKeeper organization to purchase a specially equipped pontoon boat and water testing equipment designed to conduct Delta tours for area schools, universities, civic organizations, local officials, and other concerned citizens, and to initiate an educational program focused on water quality awareness and pollution prevention. The SEP would fund the start-up and operating costs for the first year of the program. The SEP would require a budget of $64,000 to purchase equipment and for operating expenses.

   On 15 October 2004, the Regional Water Board adopted Administrative Civil Liability Order No. R5-2004-0141 which required the Discharger to pay $50,000 to the State Water Board's Cleanup and Abatement Account and $64,000 for the SEP provided above.

   On 28 March 2005, the Discharger provided confirmation to the Regional Water Board that $64,000 had been received by the DeltaKeeper Chapter of BayKeeper to implement the Floating Classroom Project for 1 year.

TENTATIVE DRAFT

4. On 17 November 2004, the Regional Water Board issued a Notice of Late Reports Subject to Mandatory Minimum Penalties for the monthly monitoring report due 20 February 2004 which was received on 26 March 2004, 35 days late.

5. An inspection of the Facility was conducted on 20 May 2005. The following is a summary of the recommendations from the inspection report:

   a. The Discharger needs to repair the broken gearbox on the rotor that is out of service.

   b. The plates holding the oxidation ditch rotors are severely corroded and one rotor was inoperative. The Discharger needs to repair or replace the support plates.

   c. Hose bibbs distributing recycled water appear to be threaded the same as potable water bibbs. The Discharger needs to ensure all hose bibbs distributing recycled water are designed for non-potable water.

   d. The automatic samplers are not connected to the flow meters and are not programmed to generate flow-weighted composites. The Discharger needs to connect the automatic samplers to the influent and effluent flow meters and to program the samplers to collect flow proportioned composite samples.

   e. The March 2005 total coliform monthly median and daily maximum concentration exceeded the effluent limitations.

   f. The effluent exhibits chronic toxicity towards *Selenastrum capricornutum* and *Ceriodaphnia dubia*. The Discharger must implement a TIE. Upon completion of the TIE, it must submit a work plan to conduct a TRE.

   g. Periodically, the oil and grease in the effluent exceeds effluent limitations. The Discharger needs to investigate the source of oil and grease and to ensure that the effluent does not exceed the effluent limitations.

   h. The Discharger needs to investigate and eliminate the source of VOCs in Discharge Point No. 004 to ensure that the discharges will meet effluent limitations. It needs to be aware that the variability in concentration may be an artifact of the testing process.

   i. The Discharger needs either to submit the *State Implementation Policy Plan Study* required by provision H.10 of Order No. R5-2003-0065 or to complete the study. If the study has been completed, then a copy of the study needs to be submitted immediately; if the study has not been performed, then the Discharger needs to state the earliest date it expect the study to be submitted.

   A 26 July 2005 response from the Discharger outlined the measures and anticipated compliance dates to complete or correct the issues described above.

TENTATIVE DRAFT

E. Planned Changes

The Discharger is currently constructing a new wastewater treatment plant to comply with the effluent limitations and time schedules established in Order No. R5-2003-0065, CDO No. R5-2003-0066 (rescinded), and CDO No. R5-2005-0152, which was scheduled to be completed by March 2009. The new wastewater treatment plant will be located within the perimeter of the Facility and will include a Membrane Bioreactor (MBR) treatment system. The proposed facility includes construction of a new headworks, pump station, MBR treatment system, cooling towers, lift station, ultraviolet (UV) disinfection facility, associated control and maintenance buildings, emergency power facility, electrical system, instrumentation and plant control system, and yard piping. Raw sewage will flow into the coarse screening facility, which consists of a mechanical bar screen to remove larger objects. The screened sewage will then be sent to an influent pump station, which will consist of three 750 gallon per minute (GPM) pumps to handle a peak hour flow of 2.1 MGD. The wastewater will then be pumped to a grit removal facility for removal of smaller grit particles. From the grit removal process, the influent flow will be split into two channels, each containing a perforated plate drum screen for fine screening. After passing through the fine screens, the wastewater will then receive pH adjustments and flow into an aeration tank. For reliability purposes, the aeration tank will be comprised of two parallel process trains. Each train will have an anoxic zone, an aeration zone, and a membrane process tank. Influent wastewater in the anoxic zone will be mixed with nitrified mixed liquor suspended solids (MLSS) from the membrane process tank, thereby allowing denitrification to occur. The aeration zone in each process train will operate as a conventional activated sludge process with nitrification occurring. Nitrified wastewater will then be pumped from the aeration zone into the membrane process tank for liquid/solid separation. To accomplish denitrification and provide biomass to stabilize the influent sewage, the mixed liquor will be returned to the anoxic zone. Excess accumulated solids due to biological growth will be wasted from the MBR process. The MBR permeate pumps will lift the flow through a closed pipe UV system. Disinfected effluent will be pumped by the MBR permeate pumps to the cooling towers or, when effluent temperatures can be met without supplemental cooling, flow directly to the effluent magnetic flow meter prior to discharge into Deuel Drain. When effluent cooling is required, the disinfected wastewater will be diverted through the cooling towers and then discharged into Deuel Drain. In their report of waste discharge, the Discharger requested an increase in permitted flow based on the design flow of the new wastewater treatment plant of 0.70 MGD. The Regional Water Board requested an anti-degradation analysis to approve the increase in discharge to Deuel Drain on 17 March 2008. However, the Discharger has concluded that they can maintain their current flow capacity of 0.62 MGD and are no longer requesting an increase in discharge flow.

The new wastewater treatment plant will completely replace the existing wastewater treatment plant. Excavation for the new plant has begun, and at the time of the site visit on 12 March 2008, dewatering of the site was occurring, with the extracted groundwater being pumped to one of the two facultative storage lagoons. The Discharger may keep the existing wastewater treatment plant intact to use as backup for the new plant as well as possibly to treat storm water collected at the Facility. The two facultative storage lagoons will be used to store wastewater should an upset of the new plant occur (the

TENTATIVE DRAFT

two lagoons have the capacity to hold up to 3 weeks of wastewater generated at the site). In addition, chlorination facilities will be maintained at the site for use as a backup for the new UV disinfection process. According to the Discharger, every feasible alternative has been considered to comply with the deadline contained in CDO No. R5-2005-0152 to complete construction by 1 March 2009. Unfortunately, State budget delays coupled with issues related to groundwater dewatering have resulted in an approximate 6-month delay in the construction schedule. The Discharger anticipates that the construction will be completed by September 2009, and the new plant will be operational by 31 December 2009.

In addition to construction of the new wastewater treatment plant, the Discharger is installing a reverse osmosis water treatment plant to assist in complying with the effluent limitations for electrical conductivity and total dissolved solids. The new reverse osmosis system will reduce the salinity in the source water. Construction of the reverse osmosis water treatment plant is scheduled to be completed by 1 March 2009.

TENTATIVE DRAFT

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the applicable plans, policies, and regulations identified in section II of the Limitations and Discharge Requirements (Findings). This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

A. Legal Authority

See Limitations and Discharge Requirements - Findings, Section II.C.

B. California Environmental Quality Act (CEQA)

See Limitations and Discharge Requirements - Findings, Section II.E.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans**. The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised October 2007), for the Sacramento and San Joaquin River Basins* (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Board Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. The beneficial uses of Deuel Drain downstream of the discharge are municipal and domestic supply, agricultural irrigation, agricultural stock watering, industrial process water supply, industrial service supply, water contact recreation, other non-contact water recreation, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, cold fish migration habitat, warm spawning habitat, wildlife habitat, and navigation.

   The Basin Plan on page II-1.00 states: "*Protection and enhancement of existing and*

potential beneficial uses are primary goals of water quality planning…" and with respect to disposal of wastewaters states that "...*disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*"

The federal CWA section 101(a)(2), states: "*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983.*" Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. 40 CFR 131.3(e) defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

This Order contains effluent limitations requiring a tertiary level of treatment, or equivalent, which is necessary to protect the beneficial uses of the receiving water. The Regional Water Board has considered the factors listed in CWC section 13241 in establishing these requirements, as discussed in more detail in the Fact Sheet, Attachment F, section IV.C.3.o.

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on 18 May 1972, and amended this plan on 18 September 1975. This plan contains temperature objectives for surface waters. The Thermal Plan defines elevated temperature waste as "*liquid, solid, or gaseous material including thermal waste discharged at a temperature higher than the natural temperature of receiving water*." The Thermal Plan also defines an existing discharge as "*any discharge…(b) for which waste discharge requirements have been established and construction commenced prior to adoption of this plan*." Additionally, the Thermal Plan classifies the Sacramento – San Joaquin Delta as an estuary. Therefore, as defined in the Thermal Plan, the effluent from Discharge Point No. 001 is considered an existing discharge of elevated temperature waste to an estuary. The Thermal Plan requires that existing discharges of elevated temperature wastes to estuaries comply with the following:

   a. The maximum temperature shall not exceed the receiving water temperature by more than 20ºF.

   b. Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross sectional area of a main river channel at any point.

TENTATIVE DRAFT

c. No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.

Requirements of this Order implement the Thermal Plan.

3. **Bay-Delta Plan.** The *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (Bay-Delta Plan) was adopted in May 1995 by the State Water Board superseding the 1991 Bay-Delta Plan. The Bay-Delta Plan identifies the beneficial uses of the estuary and includes objectives for flow, salinity, and endangered species protection.

   The Bay-Delta Plan attempts to create a management plan that is acceptable to the stakeholders while at the same time is protective of beneficial uses of the San Joaquin River. The State Water Board adopted Decision 1641 (D-1641) on 29 December 1999. D-1641 implements flow objectives for the Bay-Delta Estuary, approves a petition to change points of diversion of the Central Valley Project and the State Water Project in the Southern Delta, and approves a petition to change places of use and purposes of use of the Central Valley Project. The water quality objectives of the Bay-Delta Plan are implemented as part of this Order.

4. **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 water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet (Attachment F, Section IV.D.4.) the discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16.

5. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Compliance with the anti-backsliding requirements is discussed in Section IV.D.3.

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

TENTATIVE DRAFT

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 CWC 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.

7. **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.

   The Discharger has requested that regulation of Discharge Point No. 003 be removed from the Order and regulated under the State general order for storm water discharges from industrial activities (Order No. 97-03-DWQ). However, due to the periodic detections of VOCs, some of which were reported in concentrations that exceeded the applicable effluent limitations in the existing Order, as well as the fact that there is the potential for SSOs to occur and be commingled with storm water discharges, the storm water discharge from Discharge Point No. 003 will continue to be regulated under this Order.

   Due to commingling of contaminated groundwater with storm water in the discharge from Discharge Point No. 004, these discharges will continue to be regulated by this Order and is not eligible for coverage under Order No. 97-03-DWQ.

8. **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.

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

1. Under Section 303(d) of the 1972 Clean Water Act, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 30 November 2006 USEPA gave final approval to California's 2006 Section 303(d) List

TENTATIVE DRAFT

of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "…*those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 CFR 130, et seq.)*." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on Dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment.*" Deuel Drain is not listed as a WQLS in the 303(d) list of impaired water bodies. However, the Southern Delta, to which Deuel Drain is tributary, is listed as a WQLS for chlorpyrifos, DDT, diazinon, electrical conductivity, exotic species, Group A pesticides, mercury, and unknown toxicity in the 303(d) list of impaired water bodies.

2. **Total Maximum Daily Loads.** The USEPA requires the Regional Water Board to develop total maximum daily loads (TMDLs) for each 303(d) listed pollutant and water body combination. The Regional Water Board has adopted a TMDL for the Sacramento – San Joaquin Delta for diazinon and chlorpyrifos. The Regional Water Board is currently in the process of developing a TMDL for methylmercury and total mercury in the Sacramento – San Joaquin Delta.

E. Other Plans, Polices and Regulations

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

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

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

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

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

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

The Federal CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law

TENTATIVE DRAFT

[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 discharges to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards, and 40 CFR 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Regional Water Board's Basin Plan, page IV-16.00, contains an implementation policy ("Policy for Application of Water Quality Objectives") that specifies that the Regional Water Board "*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives*." This Policy complies with 40 CFR 122.44(d)(1). With respect to narrative objectives, the Regional Water Board must establish effluent limitations using one or more of three specified sources, including (1) 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 Regional Water Board's "Policy for Application of Water Quality Objectives")(40 CFR 122.44(d)(1) (vi) (A), (B) or (C)), or (3) an indicator parameter. The Basin Plan contains a narrative objective requiring that: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*" (narrative toxicity objective). The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, discoloration, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as municipal, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCL) of CCR Title 22. The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

A. Discharge Prohibitions

TENTATIVE DRAFT

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

TENTATIVE DRAFT

B. Technology-Based Effluent Limitations

1. Scope and Authority

a. Discharge Point No. 001

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

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

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR 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.

b. Discharge Point Nos. 003 and 004

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

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

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

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

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

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 CFR 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in 40 CFR 125.3.

2. Applicable Technology-Based Effluent Limitations

a. Discharge Point No. 001

i. **BOD_5 and TSS.** Federal Regulations, 40 CFR Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. Tertiary treatment is necessary to protect the beneficial uses of the receiving stream and the final effluent limitations for BOD_5 and TSS are based on the technical capability of the tertiary process. BOD_5 is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The secondary and tertiary treatment standards for BOD_5 and TSS are indicators of the effectiveness of the treatment processes. The principal design parameter for wastewater treatment plants is the daily BOD_5 and TSS loading rates and the corresponding removal rate of the system. In applying 40 CFR Part 133 for weekly and monthly average BOD_5 and TSS limitations, the application of tertiary treatment processes results in the ability to achieve lower levels for BOD_5 and TSS than the secondary standards currently prescribed; the 30-day average BOD_5 and TSS limitations have been revised to 10 mg/L, which is technically based on the capability of a tertiary system and is consistent with requirements contained in Orders adopted by the Regional Water Board for wastewater treatment plants throughout the Central Valley Region. In addition to the average weekly and average monthly effluent limitations, a daily maximum effluent limitation for BOD_5 and TSS is included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities. See Table F-5 for final technology-based effluent limitations required by this Order. In addition, 40 CFR 133.102, in describing the minimum level of effluent quality attainable by

TENTATIVE DRAFT

secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. If 85 percent removal of BOD_5 and TSS must be achieved by a secondary treatment plant, it must also be achieved by a tertiary (i.e., treatment beyond secondary level) treatment plant. This Order contains a limitation requiring an average of 85 percent removal of BOD_5 and TSS over each calendar month.

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

iii. **Flow.** The Facility is currently designed to provide a secondary level of treatment for up to a design flow of 0.62 MGD. Upon completion of the new wastewater treatment plant, the Facility will be designed to provide a tertiary level of treatment for up to a design flow of 0.70 MGD. However, the Discharger has concluded that they can maintain their current flow capacity of 0.62 MGD and are not requesting an increase in discharge. Therefore, this Order contains an average dry weather flow effluent limitation of 0.62 MGD based on the design of the current wastewater treatment plant.

Summary of Technology-based Effluent Limitations
Discharge Point No. 001

Table F-5. Summary of Technology-based Effluent Limitations – Discharge Point No. 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	10	15	20	--	--
	lbs/day[1]	52	78	103	--	--
Total Suspended Solids	mg/L	10	15	20	--	--
	lbs/day[1]	52	78	103	--	--
pH	standard units	--	--	--	6.0	9.0
Flow	MGD	0.62	--	--	--	--

[1] Based on a permitted flow of 0.62 MGD.

b. Discharge Point Nos. 003 and 004

i. **Volatile Organic Compounds (VOCs).** The effluent from Discharge Point Nos. 003 and 004 contains benzene, bromoform, chloroform, chlorodibromomethane, cis-1,2-dichloroethylene, ethylbenzene, tetrachloroethene, toluene, trichloroethene, and xylene due to previous infiltration of contaminated groundwater into the outfalls and from discharges of industrial chemical wastes into floor drains. Order No. R5-2003-0065 contained effluent limitations for VOCs based on the availability of technology that provides best practicable treatment or control and that is capable of removing VOCs below the established limits of detection.

CDO No. R5-2003-0066 required the Discharger to identify sources of pollutants entering Discharge Point Nos. 003 and 004 and to complete repair

TENTATIVE DRAFT

of broken storm drain pipelines identified as receiving infiltration of contaminated groundwater. For Discharge Point No. 003, all industrial connections to the drains have been removed. However, recent monitoring data from 2007 indicates that several constituents (benzene, bromoform, tetrachloroethene, toluene, and trichloroethene) are still present in the discharge at levels that exceed the effluent limitations established in Order No. R5-2003-0065. The periodic detections of VOCs at Discharge Point No. 003 may be attributed to residuals in the system and the Discharger believes that the frequency of detections of VOCs should be reduced over time.

For Discharge Point No. 004, the Discharger has completed lining of the storm water drains to the extent possible, and all other industrial connections to the storm water drains have been removed. There are several below ground storm water drains underneath the prison, and most of them have been lined. However, there are parts of the storm water drains that are located in areas of the prison that cannot be accessed due to security concerns (e.g., underneath the prison perimeter). As the remaining source of the VOCs in discharges from Discharge Point No. 004 is suspected to be contaminated groundwater infiltration, detectable concentrations of VOCs are likely to be present in discharges from Discharge Point No. 004.

Due to the continued presence of VOCs in discharges from Discharge Point Nos. 003 and 004, an AMEL of 0.5 µg/L and an MDEL of 1.0 µg/L for benzene, bromoform, chlorodibromomethane, chloroform, cis-1,2-dichloroethylene, ethylbenzene, tetrachloroethene, toluene, trichloroethene, and xylene are retained from Order No. R5-2003-0065.

TENTATIVE DRAFT

Table F-6. Summary of Technology-based Effluent Limitations – Discharge Point Nos. 003 and 004

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Benzene	µg/L	0.5	--	1.0	--	--
Bromoform	µg/L	0.5	--	1.0	--	--
Chlorodibromomethane	µg/L	0.5	--	1.0	--	--
Chloroform	µg/L	0.5	--	1.0	--	--
cis-1,2-Dichloroethylene	µg/L	0.5	--	1.0	--	--
Ethylbenzene	µg/L	0.5	--	1.0	--	--
Tetrachloroethene	µg/L	0.5	--	1.0	--	--
Toluene	µg/L	0.5	--	1.0	--	--
Trichloroethene	µg/L	0.5	--	1.0	--	--
Xylene	µg/L	0.5	--	1.0	--	--

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

TENTATIVE DRAFT

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. **Receiving Water.** The Facility discharges to Deuel Drain. Deuel Drain is tributary to San Joaquin River within the Sacramento – San Joaquin Delta via Paradise Cut and the Old River. Deuel Drain is within the legal boundary of the Delta and the designated uses for the Delta are applicable as described in Section III.C.

The Discharger commented on the tentative version of Order No. R5-2003-0065 that Deuel Drain was a constructed agricultural drainage channel and that constructed agricultural drains are exempt from the MUN designation under State Water Board Resolution 88-63. In the Response to Comments document dated 11 April 2003, the Regional Water Board found that USGS topographic maps of the area indicate that natural water bodies have always existed in the area, and that Deuel Drain is comprised of these reconfigured water bodies, including Tom Paine Slough, and therefore cannot be considered a constructed agricultural drainage channel. Therefore, Deuel Drain does not meet the exception criteria of Resolution 88-63.

The Response to Comments document also stated that Regional Water Board staff conducted a receiving water beneficial use assessment on 10 September 2001. The assessment states that Deuel Drain contains aquatic life and supports wildlife habitat. Evidence of contact recreation was present in the vicinity of the confluence of Deuel Drain with Paradise Cut. Food crops are grown in agricultural fields adjacent to Paradise Cut immediately downstream of Deuel Drain

b. **Hardness.** While no effluent limitation for hardness is necessary in this Order, hardness is critical to the assessment of the need for, and the development of, effluent limitations for certain metals. The *California Toxics Rule*, at (c)(4), states the following:

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

[emphasis added]

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

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. In the absence of the option of including condition-dependent, "floating" effluent limitations that are reflective of actual conditions at the time of discharge, effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. Hardness of the receiving water at RSW-001 (upstream of Discharge Point No. 001 and downstream of Discharge Point Nos. 003 and 004) ranged from 140 mg/L to 1,100 mg/L with an average of 722 mg/L based on five samples collected between 16 November 2004 and 22 May 2007. Hardness of the receiving water at RSW-002 (downstream of Discharge Point Nos. 001, 003, and 004) ranged from 220 mg/L to 730 mg/L with an average of 495 mg/L based on six samples collected between 16 November 2004 and 22 May 2007. Hardness of the effluent from Discharge Point No. 001 ranged from 520 mg/L to 730 mg/L with an average of 588 mg/L based on six samples collected between 16 November 2004 and 21 August 2007. Monitoring data for hardness of the effluent from Discharge Point Nos. 003 and 004 was not available. Because Deuel Drain is an effluent dominated stream and because RSW-002 is representative of actual receiving water conditions which contains wastes from all three discharges, the lowest hardness of the downstream receiving water (220 mg/L as $CaCO_3$) was used to represent a reasonable worst case downstream hardness value under critical low flow conditions for calculating water quality criteria for Discharge Point Nos. 001, 003, and 004.

c. **Assimilative Capacity/Mixing Zone.** Prior to adoption of Order No. R5-2003-0065, the Discharger was governed by Order No. 94-212 which provided for a mixing zone that extended approximately 1 mile downstream of Discharge Point No. 001 and allowed the receiving water limitations for temperature and the effluent limitation for chlorine residual to be met at the confluence of Deuel Drain and Paradise Cut. However, the Regional Water Board found in Order No. R5-2003-0065 that based on water quality evidence and the applicable procedure guidelines, provisions for a mixing zone should not be continued. Contributing sources of flow are primarily from the Facility and can include domestic wastewater from Discharge Point No. 001, storm water from Discharge Point No. 003, storm water and contaminated groundwater from Discharge Point No. 004, agricultural runoff from the Facility and adjoining farmlands, and occasional dairy wastewater from Discharge Point No. 002. Consistent with Order No. R5-2003-0065, this Order does not designate dilution credits or a mixing zone and discharge limitations must be met at the point of discharge.

TENTATIVE DRAFT

3. Determining the Need for WQBELs

a. CWA section 301 (b)(1) requires NPDES permits to include effluent limitations that achieve technology-based standards and any more stringent limitations necessary to meet water quality standards. Water quality standards include Regional Water Board Basin Plan beneficial uses and narrative and numeric water quality objectives, State Water Board-adopted standards, and federal standards, including the CTR and NTR. The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, and tastes and odors. The narrative toxicity objective states: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at III-8.00.) With regards to the narrative chemical constituents objective, the Basin Plan states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, "…*water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)*" in Title 22 of CCR. The narrative tastes and odors objective states: "*Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.*"

b. The Regional Water Board conducted the reasonable potential analysis (RPA) in accordance with Section 1.3 of the SIP. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control.[1] The SIP states in the introduction "*The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency.*" Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.

c. The RPA was based on data from November 2004 through October 2007, which includes effluent data submitted in SMRs by the Discharger. However, according to the Discharger in a 8 August 2008 letter to the Regional Water Board, the SMRs for Discharge Point Nos. 003 and 004 submitted during the previous permit term do not necessarily represent discharges to Deuel Drain. Samples were collected and analyzed from the storm water sumps regardless of whether a discharge to Deuel Drain actually occurred. Therefore, it is uncertain about the discharge characteristics for Discharge Point Nos. 003 and 004 when a surface water discharge actually did occur (which according to the Discharger is infrequent). Due to this uncertainty, particularly for conventional and other non-conventional (e.g., ammonia, nitrates) parameters, the data from the previous permit term will not be considered for purposes of conducting the RPA for Discharge Point Nos. 003 and 004. Data for the VOCs however will be

TENTATIVE DRAFT

[1] See, Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City).

considered as they were the subject of concern in the previous Order for discharges from Discharge Point Nos. 003 and 004.

d. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for ammonia, bromoform, chlorine, chlorodibromomethane, dichlorobromomethane, nitrate, pathogens, pH, salinity, and temperature at Discharge Point No. 001; tetrachloroethene at Discharge Point No. 003; and tetrachloroethene, trichloroethene, and cis-1,2-dichloroethylene at Discharge Point No. 004. For Discharge Point No. 001, WQBELs for the constituents are included in this Order (the technology-based effluent limitations for the constituents in Discharge Point Nos. 003 and 004 are more stringent than the WQBELs established). A summary of the RPA is provided in Attachment G and a detailed discussion of the RPA for each constituent is provided below.

e. WQBELs were calculated in accordance with section 1.4 of the SIP, as described in Attachment F, Section IV.C.4.

f. **Ammonia.** 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 does not currently use nitrification to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream. Ammonia is known to cause toxicity to aquatic organisms in surface waters. Discharges of ammonia would violate the Basin Plan narrative toxicity objective. Applying 40 CFR 122.44(d)(1)(vi)(B), it is appropriate to use the National Ambient Water Quality Criteria (NAWQC) for the protection of freshwater aquatic life for ammonia.

The NAWQC for the protection of freshwater aquatic life for total ammonia, recommends acute (1-hour average; criteria maximum concentration or CMC) standards based on pH and chronic (30-day average; criteria continuous concentration or CCC) standards based on pH and temperature. USEPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC. USEPA found that as pH increased, both the acute and chronic toxicity of ammonia increased. Salmonids were more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia was not influenced by temperature, it was found that invertebrates and young fish experienced increasing chronic toxicity effects with increasing temperature. Because the receiving water has a beneficial use of cold freshwater habitat and the presence of salmonids and early fish life stages in the Sacramento – San Joaquin Delta is well-documented; the recommended criteria for waters where salmonids and early life stages are present were used.

TENTATIVE DRAFT

The maximum permitted effluent pH is 8.5, as the Basin Plan objective for pH in the receiving stream is the range of 6.5 to 8.5. In order to protect against the worst-case short-term exposure of an organism, a pH value of 8.5 was used to derive the acute criterion. The resulting acute criterion is 2.14 mg/L.

Monitoring Location RSW-002 is located downstream of Discharge Point Nos. 001, 003, and 004 and significant downstream receiving water monitoring data for pH and temperature is available. Because data from Monitoring Location RSW-002 is representative of actual receiving water conditions which contains wastewater from all three discharges, it more accurately represents receiving water conditions than using effluent monitoring from Discharge Point Nos. 001, 003, or 004. The maximum observed 30-day rolling average temperature and the maximum observed pH of the receiving water downstream of the discharges were used to calculate the 30-day CCC. The maximum observed 30-day average receiving water temperature was 78.53°F (25.85°C), for the rolling 30-day period ending 21 August 2006. The maximum observed receiving water pH value was 7.9 on 27 July 2005. Using a pH value of 7.9 and the worst-case temperature value of 78.53°F (25.85°C) on a rolling 30-day basis, the resulting 30-day CCC is 1.35 mg/L (as N). The 4-day average concentration is derived in accordance with the USEPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCC of 1.35 mg/L (as N), the 4-day average concentration that should not be exceeded is 3.38 mg/L (as N).

The Regional Water Board calculates WQBELs in accordance with SIP procedures for non-CTR constituents, and ammonia is a non-CTR constituent. The SIP procedure assumes a 4-day averaging period for calculating the long-term average discharge condition (LTA). However, USEPA recommends modifying the procedure for calculating permit limits for ammonia using a 30-day averaging period for the calculation of the LTA corresponding to the 30-day CCC. Therefore, while the LTAs corresponding to the acute and 4-day chronic criteria were calculated according to SIP procedures, the LTA corresponding to the 30-day CCC was calculated assuming a 30-day averaging period. The lowest LTA representing the acute, 4-day average, and 30-day CCC is then selected for deriving the AMEL and the MDEL. The remainder of the WQBEL calculation for ammonia was performed according to the SIP procedures.

i. **Discharge Point No. 001.** The MEC for ammonia at Discharge Point No. 001 was 4.4 mg/L, based on 149 samples collected between 2 November 2004 and 30 October 2007, while the maximum observed upstream receiving water ammonia concentration was 13 mg/L, based on 35 samples collected between 16 November 2004 and 30 October 2007. Therefore, ammonia in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a level necessary to protect aquatic life resulting in a violation of the Basin Plan's narrative toxicity objective. This Order contains a final AMEL and MDEL for ammonia at Discharge Point No. 001 of 0.7 mg/L and 2.2 mg/L, respectively, based on the NAWQC for the protection of freshwater aquatic life (see Table F-8 for WQBEL calculations).

TENTATIVE DRAFT

CDO No. R5-2005-0152 contains a compliance schedule for compliance with the final, floating effluent limitations for ammonia contained in Order No. R5-2003-0065. The final compliance date contained in CDO No. R5-2005-0152 is 1 March 2009, coinciding with completion of the new wastewater treatment plant. Based on the sample results for the effluent over the term of Order No. R5-2003-0065, the new limitations established in this Order appear to put the Discharger in immediate non-compliance. New or modified control measures are necessary in order to comply with the effluent limitations, and the new or modified control measures are not scheduled to be completed until 31 December 2009. The Basin Plan for the Sacramento and San Joaquin River Basins includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after 25 September 1995 (see Basin Plan at page IV-16). The water quality-based effluent limitations for ammonia are based on a new interpretation of the narrative standard for protection of receiving water beneficial uses. Therefore, a compliance schedule for compliance with the ammonia effluent limitations is established in the Order.

An interim performance-based maximum daily effluent limitation of 4.4 mg/L (22.8 lbs/day) has been established in this Order. The interim limitation was determined as described in Attachment F, Section IV.E.2., and is in effect through 31 December 2009. As part of compliance schedules, a pollution prevention plan that is in compliance with CWC section 13263.3(d)(3) is typically required. However, because the Discharger has already commenced construction of the new wastewater treatment plant in order to comply in part with the effluent limitations for ammonia, and because the time schedule for ammonia requires compliance in just over a year, a pollution prevention plan is not required.

g. **Benzene.** The Primary MCL for benzene is 1.0 µg/L.

i. **Discharge Point No. 001.** The MEC for benzene at Discharge Point No. 001 was 1.1 µg/L, based on 35 samples collected between 17 November 2004 and 25 October 2007. However, the majority of effluent data provided by the Discharger indicates that benzene was below analytical detection levels. Additionally, the cover letter to the monitoring report for November 2006, the month of the detection, states that contaminants not normally found in the effluent from Discharge Point No. 001 including naphthalene, toluene, xylene, ethylbenzene, and 1,2,4-trimethylbenzene were detected possibly as a result of contamination during sample collection. Because benzene has been below the levels of detection in all sampling events since that time, and because the MEC is based on a potentially contaminated sample, reasonable potential to exceed water quality objectives for benzene cannot be determined and effluent limitations for benzene are not being established at this time. Instead of limitations, additional monitoring has been established for benzene; should monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, then this Order may be reopened and modified by adding an appropriate effluent limitation.

TENTATIVE DRAFT

h. **Bromoform.** The CTR includes a bromoform criterion of 4.3 µg/L for the protection of human health and is based on a one-in-a-million cancer risk for waters from which both water and organisms are consumed.

i. **Discharge Point No. 001.** The MEC for bromoform at Discharge Point No. 001 was 130 µg/L, based on 36 samples collected between 17 November 2004 and 25 October 2007. Receiving water monitoring data for bromoform was not available. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for protection of human health. An AMEL and MDEL for bromoform of 4.3 µg/L and 5.8 µg/L, respectively, are included in this Order based on the CTR criterion for the protection of human health (see Table F-9 for WQBEL calculations).

CDO No. R5-2005-0152 contains a compliance schedule for compliance with the final effluent limitations for bromoform contained in Order No. R5-2003-0065. The final compliance date contained in CDO No. R5-2005-0152 is 1 March 2009, coinciding with completion of the new wastewater treatment plant. Based on the sample results for the effluent over the term of Order No. R5-2003-0065, the new limitations established in this Order 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 are not scheduled to be completed until 31 December 2009. Furthermore, the effluent limitations for bromoform 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 compliance time schedule for compliance with the new bromoform effluent limitations is established in CDO No. R5-2008-XXXX in accordance with CWC section 13300, that requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3.

i. **Chlorine Residual.**

i. **Discharge Point No. 001.** The Discharger currently uses chlorine for disinfection, which is extremely toxic to aquatic organisms. The Discharger uses sodium bisulfate to dechlorinate the effluent prior to discharge to Deuel Drain. Due to the existing chlorine use and the potential for chlorine to be discharged, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective. As described in Section II.E (Planned Changes) above, the Discharger is scheduled to complete the construction of a new wastewater treatment plant by 31 December 2009, including an UV disinfection unit that will replace the existing chlorination/dechlorination system.

The USEPA *Technical Support Document for Water Quality-Based Toxics Control* [EPA/505/2-90-001] contains statistical methods for converting chronic (4-day) and acute (1-hour) aquatic life criteria to average monthly and maximum daily effluent limitations based on the variability of the existing data and the expected frequency of monitoring. However, because chlorine is an

TENTATIVE DRAFT

acutely toxic constituent that will be monitored by daily grab samples, the 1-hour criteria will be applied as a MDEL, and the average 4-day criteria will be applied directly in this Order. Based on data reported during the term of Order No. R5-2003-0065 and the anticipated use of UV disinfection at the new facility, it appears as if the Discharger can comply with these new effluent limitations for chlorine residual.

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

As described in Section II.E above, the Discharger plans on replacing the chlorine disinfection system with a UV system. Once on-line and operational, and after the Discharger submits written certification to the Regional Water Board that it has ceased all use of chlorine-containing agents in its wastewater treatment process, the Discharger will not be required to monitor for compliance with the chlorine residual WQBELs.

ii. **Discharge Point No. 003.** The discharge exhibited reasonable potential to exceed the National Ambient Water Quality Criteria for chlorine based on one detection (0.05 mg/L). An inspection of the Facility was conducted on 17 March 2004. According to the inspection report, operation staff stated during the inspection that "*a few years ago there were some spills into Storm I* [Discharge Point No. 003] *that were 'treated in the sump' by dripping chlorine into the sump to provide disinfection. We understand that 'treating in the sump' consisted of dripping chlorine into the sump to disinfect any raw sewage present as it was being collected prior to discharge.*" During a site visit to the Facility on 12 March 2008, the Discharger explained that since that time, the new operating procedures include pumping any sewage spills to the wastewater treatment plant, as opposed to "treating in the sump." Each morning, operators at the Facility check the sump pit to see if a sewage spill (in the form of a sanitary sewer overflow) had occurred over night. If so then the contents in the sump are pumped out and directed to the wastewater treatment plant (via Sanitary Sewer Manhole #34). The Discharger has modified operating procedures and removed all industrial connections to the drains so that the discharge consists entirely of storm water runoff. Therefore, no effluent limitations for chlorine residual are included for Discharge Point No. 003. However, as discussed in section VII.B.3.a, the Discharger is required to update and maintain a storm water pollution prevention plan (SWPPP) to control or abate the discharge of pollutants from Discharge Point No. 003.

j. **Chlorodibromomethane***.* The CTR includes a chlorodibromomethane criterion of 0.41 µg/L for the protection of human health and is based on a one-in-a-million cancer risk for waters from which both water and organisms are consumed.

i. **Discharge Point No. 001.** The MEC for chlorodibromomethane at Discharge Point No. 001 was 69 µg/L, based on 36 samples collected between 17 November 2004 and 25 October 2007. Receiving water

TENTATIVE DRAFT

monitoring data for chlorodibromomethane was not available. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for protection of human health. An AMEL and MDEL for chlorodibromomethane at Discharge Point No. 001 of 0.41 and 0.58 µg/L, respectively, are included in this Order based on the CTR criterion for the protection of human health (see Table F-10 for WQBEL calculations).

CDO No. R5-2005-0152 contains a compliance schedule for compliance with the final effluent limitations for chlorodibromomethane contained in Order No. R5-2003-0065. The final compliance date contained in CDO No. R5-2005-0152 is 1 March 2009, coinciding with completion of the new wastewater treatment plant. Based on the sample results for the effluent over the term of Order No. R5-2003-0065, the new limitations established in this Order 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 are not scheduled to be completed until 31 December 2009. Furthermore, the effluent limitations for chlorodibromomethane 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 compliance time schedule for compliance with the new chlorodibromomethane effluent limitations is established in CDO No. R5-2008-XXXX in accordance with CWC section 13300, that requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3.

k. **cis-1,2-Dichloroethylene.** The Primary MCL for cis-1,2-dichloroethylene is 6 µg/L.

i. **Discharge Point No. 004.** The MEC for cis-1,2-dichloroethylene at Discharge Point No. 004 was 16 µg/L, based on 36 samples collected between 17 November 2004 and 25 October 2007. Receiving water monitoring data for cis-1,2- dichloroethylene was not available. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Primary MCL for cis-1,2- dichloroethylene. In accordance with guidance from the Department of Public Health (DPH; formerly the Department of Health Services), annual average effluent limitations are considered appropriate for constituents with Primary MCLs designed to protect human health over long periods of time. Therefore, the applicable WQBEL for cis-1,2-dichloroethylene is an annual average of 6 µg/L. As discussed further in section V.D.5 of this Fact Sheet, no WQBELs are included in this Order for cis-1,2- dichloroethylene because the applicable technology-based effluent limitations are more stringent and are protective of all water quality standards.

l. **Dichlorobromomethane**. The CTR includes a dichlorobromomethane criterion of 0.56 µg/L for the protection of human health and is based on a one-in-a-million cancer risk for waters from which both water and organisms are consumed.

i. **Discharge Point No. 001.** The MEC for dichlorobromomethane at Discharge Point No. 001 was 13 µg/L, based on 36 samples collected between

TENTATIVE DRAFT

17 November 2004 and 25 October 2007. Receiving water monitoring data for dichlorobromomethane was not available. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for dichlorobromomethane. An AMEL and MDEL for dichlorobromomethane at Discharge Point No. 001 of 0.56 µg/L and 0.82 µg/L, respectively, are included in this Order based on the CTR criterion for the protection of human health (see Table F-11 for WQBEL calculations).

CDO No. R5-2005-0152 contains a compliance schedule for compliance with the final effluent limitations for dichlorobromomethane contained in Order No. R5-2003-0065. The final compliance date contained in CDO No. R5-2005-0152 is 1 March 2009, coinciding with completion of the new wastewater treatment plant. Based on the sample results for the effluent over the term of Order No. R5-2003-0065, the new limitations established in this Order 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 are not scheduled to be completed until 31 December 2009. Furthermore, the effluent limitations for dichlorobromomethane 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 compliance time schedule for compliance with the new dichlorobromomethane effluent limitations is established in CDO No. R5-2008-XXXX in accordance with CWC section 13300, that requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3.

TENTATIVE DRAFT

m. **Nitrate.** Untreated domestic wastewater contains ammonia. Nitrification is a biological process that converts ammonia to nitrite and nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. Nitrate and nitrite are known to cause adverse health effects in humans. The California DPH has adopted a Primary MCL at Title 22 of the California Code of Regulations (CCR), Table 64431-A, for the protection of human health for nitrate equal to 10 mg/L (measured as nitrogen). Title 22 CCR, Table 64431-A, also includes a primary MCL of 10,000 µg/L for the sum of nitrate and nitrite, measured as nitrogen.

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

Inadequate or incomplete denitrification may result in the discharge of nitrate and/or nitrite to the receiving stream.

i. **Discharge Point No. 001.** The MEC for nitrate (as nitrogen) at Discharge Point No. 001 was 130 mg/L, demonstrating a reasonable potential to cause or contribute to an exceedance of Primary MCL. This Order retains the AMEL from Order R5-2003-0065; 10 mg/L for nitrate (as nitrogen) based on the MCL. These effluent limitations are included in this Order to assure the

treatment process adequately nitrifies and denitrifies the waste stream to protect the beneficial use of municipal and domestic supply.

CDO No. R5-2005-0152 contains a compliance schedule for compliance with the final effluent limitations for nitrate contained in Order No. R5-2003-0065. The final compliance date contained in CDO No. R5-2005-0152 is 1 March 2009, coinciding with completion of the new wastewater treatment plant. Based on the sample results for the effluent over the term of Order No. R5-2003-0065, the new limitations established in this Order 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 are not scheduled to be completed until 31 December 2009. Furthermore, the effluent limitations for nitrate 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 compliance time schedule for compliance with the new nitrate effluent limitations is established in CDO No. R5-2008-XXXX in accordance with CWC section 13300, that requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3.

TENTATIVE DRAFT

n. **Oil and Grease.**

i. **Discharge Point No. 001.** Order No. R5-2003-0065 included numeric monthly average and daily maximum effluent limitations for Discharge Point No. 001 of 10 mg/L (52 lbs/day) and 15 mg/L (77 lbs/day), respectively. The monitoring data collected for oil and grease during the term of Order No. R5-2003-0065 indicated levels well below effluent limitations. Therefore, as described in Section IV.D.3, oil and grease effluent limitations have not been retained in this Order.

o. **Pathogens**.

i. **Discharge Point No. 001.** The beneficial uses of the Deuel Drain include municipal and domestic supply, water contact recreation, and agricultural irrigation supply, and there is, at times, less than 20:1 dilution. To protect these beneficial uses, the Regional Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. The principal infectious agents (pathogens) that may be present in raw sewage may be classified into three broad groups: bacteria, parasites, and viruses. Tertiary treatment, consisting of chemical coagulation, sedimentation, and filtration, has been found to remove approximately 99.5% of viruses. Filtration is an effective means of reducing viruses and parasites from the waste stream. The wastewater must be treated to tertiary standards (filtered), or equivalent, to protect contact recreational and food crop irrigation uses.

DPH has developed reclamation criteria, CCR, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 requires that for spray irrigation of food crops, parks, playgrounds, schoolyards, and other areas of similar public access, wastewater be adequately disinfected, oxidized, coagulated, clarified,

and filtered, and that the effluent total coliform levels not exceed 2.2 MPN/100 mL as a 7-day median. As coliform organisms are living and mobile, it is impracticable to quantify an exact number of coliform organisms and to establish weekly average limitations. Instead, coliform organisms are measured as a most probable number and regulated based on a 7-day median limitation.

Title 22 also requires that recycled water used as a source of water supply for non-restricted recreational impoundments be disinfected tertiary recycled water that has been subjected to conventional treatment. A non-restricted recreational impoundment is defined as "*…an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities.*" Title 22 is not directly applicable to surface waters; however, the Regional Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by DPH's reclamation criteria because the receiving water is used for irrigation of agricultural land and for contact recreation purposes. The stringent disinfection criteria of Title 22 are appropriate since the undiluted effluent may be used for the irrigation of food crops and/or for body-contact water recreation. To protect human health, DPH recommends that discharges to receiving streams with contact recreation beneficial uses and less than a 20:1 receiving water to effluent dilution ratio be tertiary treated or equivalent.

TENTATIVE DRAFT

Coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens. The method of treatment is not prescribed by this Order; however, wastewater must be treated to a level equivalent to that recommended by DPH. In addition to coliform testing, an operational specification for turbidity has been included as a second indicator of the effectiveness of the treatment process and to assure compliance with the required level of treatment. These operational specifications will replace the effluent limitations for turbidity contained in Order No. R5-2003-0065. The tertiary treatment process, or equivalent, is capable of reliably meeting a turbidity limitation of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the filtration system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. Coliform testing, by comparison, is not conducted continuously and requires several hours, to days, to identify high coliform concentrations. Therefore, to ensure compliance with the DPH recommended Title 22 disinfection criteria, weekly average specifications are impracticable for turbidity.

This Order retains effluent limitations for total coliform organisms and a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water. The Regional Water Board has previously considered the factors in CWC section 13241 in establishing these requirements.

CDO No. R5-2005-0152 contains a compliance schedule for compliance with the final effluent limitations for total coliform organisms contained in Order No. R5-2003-0065. The final compliance date contained in CDO No. R5-2005-0152 is 1 March 2009, coinciding with previously estimated date for completion of the new wastewater treatment plant. The Discharger is nearing completion of new tertiary treatment facilities with completion expected by 31 December 2009. Therefore, this Order includes a time schedule to meet the Title 22 (or equivalent) tertiary requirements by 31 December 2009, as allowed by the Basin Plan.

p. **pH.**

i. **Discharge Point No. 001.** The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the "…*pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses.*" Effluent Limitations for pH are included in this Order for Discharge Point No. 001 based on the Basin Plan objectives for pH.

q. **Salinity.** The discharge contains total dissolved solids (TDS), chloride, sulfate, and electrical conductivity (EC). These are water quality parameters that are indicative of the salinity of the water. Their presence in water can be growth limiting to certain agricultural crops and can affect the taste of water for human consumption. There are no USEPA water quality criteria for the protection of

TENTATIVE DRAFT

aquatic organisms for these constituents. The Basin Plan contains a chemical constituent objective that incorporates State MCLs, contains a narrative objective, and contains numeric water quality objectives for electrical conductivity, total dissolved solids, sulfate, and chloride.

Table F-7. Salinity Water Quality Criteria/Objectives – Discharge Point No. 001

Parameter	Agricultural WQ Goal[1]	Secondary MCL[3]	Basin Plan (D-1641)[4]	Effluent	
				Avg	Max
EC (µmhos/cm)	Varies[2]	900, 1600, 2200	700 (1 Apr – 31 Aug) 1000 (1 Sep – 31 Mar)	2,179	3,000
TDS (mg/L)	Varies	500, 1000, 1500	N/A	1,578	2,000
Sulfate (mg/L)	Varies	250, 500, 600	N/A	162	170
Chloride (mg/L)	Varies	250, 500, 600	N/A	593	830

1 Agricultural water quality goals based on *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985)

2 The EC level in irrigation water that harms crop production depends on the crop type, soil type, irrigation methods, rainfall, and other factors. An EC level of 700 umhos/cm is generally considered to present no risk of salinity impacts to crops. However, many crops are grown successfully with higher salinities.

3 The secondary MCLs are stated as a recommended level, upper level, and a short-term maximum level.

4 The D-1641 water quality objectives apply at three monitoring locations in the South Delta. They do not apply to the entire Delta.

i. **Chloride**. The secondary MCL for chloride is 250 mg/L, as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum. The recommended agricultural water quality goal for chloride, that would apply the narrative chemical constituent objective, is 106 mg/L as a long-term average based on Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985). The 106 mg/L water quality goal is intended to protect against adverse effects on sensitive crops when irrigated via sprinklers.

(a) **Discharge Point No. 001**. Chloride concentrations in the effluent from Discharge Point No. 001 ranged from 430 mg/L to 830 mg/L, with an average of 593 mg/L, for 43 samples collected by the Discharger from 15 November 2004 through 16 October 2007. Background concentrations in Deuel Drain ranged from 48 mg/L to 720 mg/L, with an average of 480 mg/L, for four samples collected by the Discharger from 16 November 2004 through 22 May 2007. Both the receiving water and the effluent concentrations exceed the agricultural water quality goal of 106 mg/L.

ii. **Electrical Conductivity**. The secondary MCL for electrical conductivity is 900 µmhos/cm as a recommended level, 1600 µmhos/cm as an upper level, and 2200 µmhos/cm as a short-term maximum. The State Water Board has

TENTATIVE DRAFT

established salinity standards in the Bay-Delta Plan. The Bay-Delta Plan prescribes numeric electrical conductivity standards to protect agricultural irrigation at several locations in the Sacramento – San Joaquin Delta, including in the San Joaquin River at Vernalis, in the San Joaquin River at Brandt Road Bridge, and in the Old River near Middle River, locations which are nearby and generally surround the discharge points. The salinity objectives for each these three stations are identical: 700 µmhos/cm during the irrigation season (April through August) and 1,000 µmhos/cm during the non-irrigation season (September through March). The 2006 update of the Bay-Delta Plan clarified that the numeric objectives are not just applicable at the compliance monitoring locations, but "*unless otherwise indicated, water quality objectives cited for a general area, such as for the southern Delta, are applicable for all locations in that general area and compliance locations will be used to determine compliance with the cited objectives.*" The three cited compliance locations are in the general area of the Facility's discharges, and the soils, cropping, precipitation, and other factors impacting salinity impacts on crops are essentially the same near the Facility as they are throughout the southern Delta. Therefore, the numeric receiving water objectives for these three compliance monitoring locations are applicable to the receiving waters into which the Facility discharges.

(a) **Discharge Point No. 001.** A review of the Discharger's monitoring reports from 1 November 2004 through 30 October 2007 shows an average effluent electrical conductivity of 2,179 µmhos/cm, with a range from 1,600 µmhos/cm to 3,000 µmhos/cm for 439 samples. These levels exceed the applicable objectives. The background receiving water electrical conductivity averaged 2,680 µmhos/cm in 100 sampling events collected by the Discharger from 3 November 2004 through 30 October 2007. The discharge exhibits reasonable potential to exceed the salinity standards in the Bay-Delta Plan.

iii. **Sulfate**. The secondary MCL for sulfate is 250 mg/L as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

(a) **Discharge Point No. 001.** Sulfate concentrations in the effluent ranged from 140 mg/L to 170 mg/L, with an average of 162 mg/L, for six samples collected by the Discharger from 16 November 2004 through 21 August 2007. Background concentrations in Deuel Drain ranged from 57 mg/L to 820 mg/L, with an average of 485 mg/L, for five samples collected by the Discharger from 16 November 2004 through 22 May 2007. Based on the lack of assimilative capacity in the receiving water, a reasonable potential exists to exceed the secondary MCL recommended level of 250 mg/L.

iv. **Total Dissolved Solids**. The secondary MCL for total dissolved solids is 500 mg/L as a recommended level, 1,000 mg/L as an upper level, and 1500 mg/L as a short-term maximum. The recommended agricultural water quality goal for total dissolved solids, that would apply the narrative chemical constituent objective, is 450 mg/L as a long-term average based on Water Quality for Agriculture, Food and Agriculture Organization of the United

TENTATIVE DRAFT

Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985). Water Quality for Agriculture evaluates the impacts of salinity levels on crop tolerance and yield reduction, and establishes water quality goals that are protective of the agricultural uses. The 450 mg/L water quality goal is intended to prevent reduction in crop yield, i.e. a restriction on use of water, for salt-sensitive crops. Only the most salt sensitive crops require irrigation water of 450 mg/L or less to prevent loss of yield. Most other crops can tolerate higher total dissolved solids concentrations without harm, however, as the salinity of the irrigation water increases, more crops are potentially harmed by the total dissolved solids, or extra measures must be taken by the farmer to minimize or eliminate any harmful impacts.

(a) **Discharge Point No. 001.** The average total dissolved solids effluent concentration was 1,578 mg/L; concentrations ranged from 830 mg/L to 2,000 mg/L for 77 samples collected by the Discharger from 2 November 2004 through 16 October 2007. These concentrations exceed the applicable water quality objectives. The background receiving water total dissolved solids ranged from 140 mg/L to 3,300 mg/L, with an average of 1,866 mg/L in 37 sampling events performed by the Discharger from 16 November 2004 through 30 October 2007. These data indicate the receiving water frequently exceeds water quality objectives.

v. **Salinity Effluent Limitations.** Effluent limitations based on the MCL or the Basin Plan would likely require construction and operation of a reverse osmosis treatment plant. The State Water Board, in Water Quality Order 2005-005 (for the City of Manteca), states, "*…the State Board takes official notice [pursuant to Title 23 of California Code of Regulations, Section 648.2] of the fact that operation of a large-scale reverse osmosis treatment plant would result in production of highly saline brine for which an acceptable method of disposal would have to be developed. Consequently, any decision that would require use of reverse osmosis to treat the City's municipal wastewater effluent on a large scale should involve thorough consideration of the expected environmental effects.*" The State Water Board states in that Order, "*Although the ultimate solution to southern Delta salinity problems have not yet been determined, previous actions establish that the State Board intended for permit limitations to play a limited role with respect to achieving compliance with the EC water quality objectives in the southern Delta.*" The State Water Board goes on to say, "*Construction and operation of reverse osmosis facilities to treat discharges…prior to implementation of other measures to reduce the salt load in the southern Delta, would not be a reasonable approach.*"

The Regional Water Board, with cooperation of the State Water Board, has begun the process to develop a new policy for the regulation of salinity in the Central Valley. In a statement issued at the 16 March 2006, Regional Water Board meeting, Board Member Dr. Karl Longley recommended that the Regional Water Board continue to exercise its authority to regulate discharges of salt to minimize salinity increases within the Central Valley. Dr. Longley stated, "*The process of developing new salinity control policies does*

TENTATIVE DRAFT

not, therefore, mean that we should stop regulating salt discharges until a salinity Policy is developed. In the meantime, the Board should consider all possible interim approaches to continue controlling and regulating salts in a reasonable manner, and encourage all stakeholder groups that may be affected by the Regional Board's policy to actively participate in policy development."

(a) **Discharge Point No. 001.** Currently, local groundwater serves as the drinking water supply for Facility, which contributes a significant portion of the salinity in the influent wastewater. The Discharger is currently in the process of building a reverse osmosis water treatment plant which should reduce the salinity in the influent and address the high levels of salinity in the effluent. Construction of the water treatment plant is scheduled to be completed by 1 March 2009. Order No. R5-2003-0065 included an AMEL of 700 µmhos/cm based on the water quality objective for the southern Delta contained in the Bay-Delta Plan, which was applicable throughout the year. Because the water quality objective for electrical conductivity in the southern Delta is seasonal, this Order contains an AMEL of 700 µmhos/cm which is applicable from 1 April through 31 August and an AMEL of 1,000 µmhos/cm which is applicable from 1 September through 31 March.

The Antidegradation Policy (Resolution No. 68-16) requires that the Discharger implement best practicable treatment or control (BPTC) of its discharge. For salinity, the Regional Water Board is considering limiting effluent salinity of municipal wastewater treatment plants to an increment of 500 µmhos/cm over the salinity of the municipal water supply as representing BPTC. Because construction of the reverse osmosis water treatment plant is scheduled to be completed within a year of permit adoption, limitations based on current water supply data may not provide adequate BPTC of the discharge. This Order requires quarterly monitoring of electrical conductivity and total dissolved solids of the Discharger's influent and water supply (see Attachment E, Sections III.A. and IX.B.). Final effluent limitations for salinity based on BPTC will be established subsequent to the collection and analysis by the Discharger of electrical conductivity in the Discharger's water supply subsequent to the start-up of the reverse osmosis water treatment plant.

CDO No. R5-2005-0152 contains a compliance schedule for compliance with the final effluent limitations for electrical conductivity and total dissolved solids contained in Order No. R5-2003-0065. The final compliance date contained in CDO No. R5-2005-0152 is 1 March 2009, coinciding with completion of the new wastewater treatment plant and reverse osmosis water treatment plant. The Regional Water Board staff guidance on salinity states that prescribing either TDS or EC limits is generally sufficiently protective of water quality standards for salt constituents. Therefore, this Order will require compliance with EC effluent limitations for control of salinity (i.e., no limitations for TDS will be established in the Order).

TENTATIVE DRAFT

Based on the sample results for the effluent over the term of Order No. R5-2003-0065, it appears the Discharger is still not able to comply with the effluent limitations for EC. Therefore, a compliance time schedule for compliance with the salinity effluent limitations is established in CDO No. R5-2008-XXXX in accordance with CWC section 13300, that requires preparation and implementation of a pollution prevention plan in compliance with CWC section 13263.3. This compliance time schedule will extend the deadline for compliance with EC established in Order No. R5-2003-0065 (1 March 2009) to coincide with the anticipated completion date of the new treatment plant (31 December 2009).

r. **Settleable Solids.**

i. **Discharge Point No. 001.** For inland surface waters, the Basin Plan states that "*[w]ater shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.*" Order No. R5-2003-0065 contained average monthly and average daily effluent limitations for settleable solids for Discharge Point No. 001.

Effluent limitations for settleable solids have not been retained in this Order for Discharge Point No. 001. For the Facility, like other facilities achieving secondary or more advanced levels of treatment, the Regional Water Board has determined that compliance with the requirements of 40 CFR Part 133 will assure removal of settleable solids to acceptably low levels - below 0.1 ml/l/hr (monthly average) and 0.2 ml/l/hr (daily maximum).

s. **Temperature**.

i. **Discharge Point No. 001.** As discussed in section III.C.2 of this Fact Sheet, the discharge from Discharge Point No. 001 is considered an elevated temperature waste to an estuary. The Thermal Plan requires that, "*The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.*" Therefore, to ensure compliance with the Thermal Plan an effluent limitation for temperature at Discharge Point No. 001 is included in this Order.

t. **Tetrachloroethylene***.* The NTR includes a tetrachloroethylene criterion of 0.80 µg/L for the protection of human health, based on a one-in-a-million cancer risk for waters from which both water and aquatic organisms are consumed.

i. **Discharge Points No. 003.** The MEC for tetrachloroethylene at Discharge Point No. 003 was 1.5 µg/L, based on 34 samples collected between 17 November 2004 and 25 October 2004. Receiving water monitoring data was not available for tetrachloroethylene. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the NTR criterion for tetrachloroethylene. The applicable WQBELs for tetrachloroethylene are 0.8 µg/L as an AMEL and 1.6 µg/L as an MDEL (see Table F-12 for WQBEL calculations). As discussed further in section V.D.5 of this Fact Sheet, no WQBELs are included in this Order for tetrachloroethylene

TENTATIVE DRAFT

because the applicable technology-based effluent limitations are more stringent and are protective of all water quality standards.

ii. **Discharge Point No. 004.** The MEC for tetrachloroethylene at Discharge Point No. 004 was 26 µg/L, based on 36 samples collected between 17 November 2004 and 25 October 2004. Receiving water monitoring data was not available for tetrachloroethylene. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the NTR criterion for tetrachloroethylene. The applicable WQBELs for tetrachloroethylene are 0.8 µg/L as an AMEL and 1.5 µg/L as an MDEL (see Table F-13 for WQBEL calculations). However, as discussed further in section V.D.5 of this Fact Sheet, no WQBELs are included in this Order for tetrachloroethylene because the applicable technology-based effluent limitations are more stringent and are protective of all water quality standards.

u. **Trichloroethylene.** The NTR includes a trichloroethylene criterion of 2.7 µg/L for the protection of human health, based on a one-in-a-million cancer risk for waters from which both water and aquatic organisms are consumed.

i. **Discharge Point No. 004.** The MEC for trichloroethylene at Discharge Point No. 004 was 2.7 µg/L, based on 36 samples collected between 17 November 2004 and 25 October 2004. Receiving water monitoring data were not available for trichloroethylene. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the NTR criterion for trichloroethylene. The applicable WQBELs for trichloroethylene are 2.7 µg/L as an AMEL and 4.5 µg/L as an MDEL (see Table F-14 for WQBEL calculations). However, as discussed further in section V.D.5 of this Fact Sheet, no WQBELs are included in this Order for trichloroethylene because the applicable technology-based effluent limitations are more stringent and are protective of all water quality objectives.

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

4. WQBEL Calculations

a. As discussed in section IV.C.3. above, WQBELs for electrical conductivity, nitrate, and pH were based on Basin Plan objectives and applied directly as effluent limitations. WQBELs for pathogens were based on California DPH reclamation criteria. Based on input from DPH, the WQBEL for cis-1,2-dichloroethylene at Discharge Point No. 004 was based on the Primary MCL and established directly as an annual average.

b. WQBELs for ammonia, dichlorobromomethane, bromoform, and chlorodibromomethane at Discharge Point No. 001, tetrachloroethylene at Discharge Point No. 003, and tetrachloroethylene and trichloroethylene at Discharge Point No. 004, were calculated in accordance with section 1.4 of the SIP. The following paragraphs describe the methodology used for calculating WQBELs for these parameters.

TENTATIVE DRAFT

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

$$ECA_{acute} = CMC \qquad ECA_{chronic} = CCC$$

For the human health, agriculture, or other long-term criterion/objective, a dilution credit can be applied. The ECA is calculated as follows:

$$ECA_{HH} = HH + D(HH - B)$$

where:

ECA_{acute} = effluent concentration allowance for acute (1-hour average) toxicity criterion

$ECA_{chronic}$ = effluent concentration allowance for chronic (4-day average) toxicity criterion

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

CMC = criteria maximum concentration (1-hour average)

CCC = criteria continuous concentration (4-day average, unless otherwise noted)

HH = human health, agriculture, or other long-term criterion/objective

D = dilution credit

B = maximum receiving water concentration

Acute and chronic toxicity ECAs were then converted to equivalent long-term averages (LTA) using statistical multipliers and the lowest is used. Additional statistical multipliers were then used to calculate the maximum daily effluent limitation (MDEL) and the average monthly effluent limitation (AMEL).

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

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

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

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

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

TENTATIVE DRAFT

WQBELs were calculated for ammonia, dichlorobromomethane, bromoform, and chlorodibromomethane at Discharge Point No. 001, tetrachloroethylene at Discharge Point No. 003, and tetrachloroethylene and trichloroethylene at Discharge Point No. 004 as follows in Tables F-8 through F-14, below.

TENTATIVE DRAFT

Table F-8. WQBEL Calculations for Ammonia at Discharge Point No. 001

	Acute	Chronic
pH[1]	8.5	7.9
Temperature (°C)[2]	N/A	25.85
Criteria (mg/L)[3]	2.14	1.35
Dilution Credit	No Dilution	No Dilution
ECA	2.14	1.35
ECA Multiplier	0.1	0.37
LTA[4]	0.21	0.5
AMEL Multiplier (95th%)	3.19	[5]
AMEL (mg/L)	**0.7**	[5]
MDEL Multiplier (99th%)	10.29	[5]
MDEL (mg/L)	**2.2**	[5]

1 Acute design pH = 8.5 (maximum allowed effluent pH), Chronic design pH = 7.9 (maximum observed downstream pH).
2 Temperature = Maximum observed downstream 30-day average temperature.
3 USEPA Ambient Water Quality Criteria.
4 LTA developed based on Acute and Chronic ECA Multipliers calculated at 99th percentile level per sections 5.4.1 and 5.5.4 of TSD.
5 Limitations based on acute LTA ($LTA_{acute} < LTA_{chronic}$).

Table F-9. WQBEL Calculations for Bromoform at Discharge Point No. 001

	Human Health
Criteria (µg/L)	4.3
Dilution Credit	No Dilution
ECA	4.3
AMEL (µg/L)[1]	**4.3**
MDEL/AMEL Multiplier[2]	1.35
MDEL (µg/L)	**5.8**

1 AMEL = ECA per section 1.4.B, Step 6 of SIP
2 Assumes sampling frequency n<=4. Uses MDEL/AMEL multiplier from Table 2 of SIP.

Table F-10. WQBEL Calculations for Chlorodibromomethane at Discharge Point No. 001

	Human Health
Criteria (µg/L)	0.41
Dilution Credit	No Dilution
ECA	0.41
AMEL (µg/L)[1]	**0.41**
MDEL/AMEL Multiplier[2]	1.41
MDEL (µg/L)	**0.58**

1 AMEL = ECA per section 1.4.B, Step 6 of SIP
2 Assumes sampling frequency n<=4. Uses MDEL/AMEL multiplier from Table 2 of SIP.

Table F-11. WQBEL Calculations for Dichlorobromomethane at Discharge Point No. 001

	Human Health
Criteria (µg/L)	0.56
Dilution Credit	No Dilution
ECA	0.56
AMEL (µg/L)[1]	**0.56**
MDEL/AMEL Multiplier[2]	1.47
MDEL (µg/L)	**0.82**

[1] AMEL = ECA per section 1.4.B, Step 6 of SIP
[2] Assumes sampling frequency n<=4. Uses MDEL/AMEL multiplier from Table 2 of SIP.

Table F-12. WQBEL Calculations for Tetrachloroethylene at Discharge Point No. 003

	Human Health
Criteria (µg/L)	0.8
Dilution Credit	No Dilution
ECA	0.8
AMEL (µg/L)[1]	**0.8**
MDEL/AMEL Multiplier[2]	2.01
MDEL (µg/L)	**1.6**

[1] AMEL = ECA per section 1.4.B, Step 6 of SIP
[2] Assumes sampling frequency n<=4. Uses MDEL/AMEL multiplier from Table 2 of SIP.

Table F-13. WQBEL Calculations for Tetrachloroethylene at Discharge Point No. 004

	Human Health
Criteria (µg/L)	0.8
Dilution Credit	No Dilution
ECA	0.8
AMEL (µg/L)[1]	**0.8**
MDEL/AMEL Multiplier[2]	1.93
MDEL (µg/L)	**1.5**

[1] AMEL = ECA per section 1.4.B, Step 6 of SIP
[2] Assumes sampling frequency n<=4. Uses MDEL/AMEL multiplier from Table 2 of SIP.

Table F-14. WQBEL Calculations for Trichloroethylene at Discharge Point No. 004

	Human Health
Criteria (µg/L)	2.7
Dilution Credit	No Dilution
ECA	2.7
AMEL (µg/L)[1]	**2.7**
MDEL/AMEL Multiplier[2]	1.65
MDEL (µg/L)	**4.5**

[1] AMEL = ECA per section 1.4.B, Step 6 of SIP
[2] Assumes sampling frequency n<=4. Uses MDEL/AMEL multiplier from Table 2 of SIP.

TENTATIVE DRAFT

Summary of Water Quality-based Effluent Limitations

Table F-15. Summary of WQBELs – Discharge Point No. 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants						
pH	standard units	--	--	--	6.5	8.5
Priority Pollutants						
Bromoform	µg/L	4.3	--	5.8	--	--
Chlorodibromomethane	µg/L	0.41	--	0.58	--	--
Dichlorobromomethane	µg/L	0.56	--	0.82	--	--
Non-Conventional Pollutants						
Ammonia Nitrogen, Total (as N)	mg/L	0.7	--	2.2	--	--
	lbs/day[1]	3.6	--	11.4	--	--
Chlorine, Total Residual	mg/L	--	0.011[2]	0.019	--	--
Electrical Conductivity @ 25°C	µmhos/cm	700[3] 1,000[4]	--	--	--	--
Nitrate Nitrogen, Total (as N)	mg/L	10	--	--	--	--
Temperature	°F	--	--	[5]	--	--
Total Coliform Organisms	MPN/100 mL	--	2.2[6]	23[7]	--	240

1 Based on a design flow of 0.62 MGD.
2 Applied as a 4-day average effluent limitation.
3 Applies from 1 April through 31 August.
4 Applies from 1 September through 31 March.
5 The maximum effluent temperature shall not exceed the natural receiving water by more than 20°F.
6 Applied as a 7-day median effluent limitation.
7 Effluent total coliform organisms are not to exceed 23 MPN/100 mL more than once in any 30-day period.

Table F-16. Summary of WQBELs – Discharge Point No. 003

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Tetrachloroethylene	µg/L	0.8	--	1.6	--	--

Table F-17. Summary of WQBELs – Discharge Point No. 004

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Tetrachloroethylene	µg/L	0.8	--	1.5	--	--
Trichloroethylene	µg/L	2.7	--	4.5	--	--
cis-1,2-Dichloroethylene	µg/L	6[1]	--	--	--	--

1 Applied as an annual average effluent limitation.

TENTATIVE DRAFT

TENTATIVE DRAFT

5. Whole Effluent Toxicity (WET)

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

a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at III-8.00) The Basin Plan also states that, "…*effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate*…". USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "*In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc."* Accordingly, effluent limitations for acute toxicity have been included in this Order for Discharge Point No. 001 as follows:

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

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

b. **Chronic Aquatic Toxicity.** The following table summarizes the results of quarterly whole effluent chronic toxicity testing performed by the Discharger from November 2004 through October 2007.

Table F-18. Summary of Chronic Aquatic Toxicity Results – Discharge Point No. 001

Date	Species	Test Endpoint	Result (TUc)
11/29/04	*Selenastrum capricornutum*	Growth	4
02/15/05	*Selenastrum capricornutum*	Growth	4
06/06/05	*Pimephales promelas*	Larval Survival	2
06/08/05	*Selenastrum capricornutum*	Growth	4
03/27/06	*Selenastrum capricornutum*	Growth	2
10/23/06	*Selenastrum capricornutum*	Growth	2
08/27/07	*Ceriodaphnia dubia*	Reproduction	2

Based on the data provided by the Discharger, the discharge has reasonable potential to cause or contribute to an to an in-stream excursion above of the Basin Plan's narrative toxicity objective. The results of several tests indicate impacts to survival, growth, and reproduction.

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 excursion 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[2] that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-012 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 whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). Furthermore, Special Provisions VI.C.2.a. of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. The Discharger is required to build on previous Toxicity Reduction Evaluation (TRE) efforts to identify and control the source of toxicity. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to perform

TENTATIVE DRAFT

[2] 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)

accelerated chronic toxicity monitoring, as well as, the threshold to initiate a TRE if a pattern of effluent toxicity has been demonstrated.

D. Final Effluent Limitations

1. Mass-based Effluent Limitations

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

Mass-based effluent limitations at Discharge Point No. 001 for ammonia, BOD_5, and TSS were calculated based upon the permitted average dry weather flow of 0.62 MGD allowed in section IV.A.1.g of the Limitations and Discharge Requirements.

Because the effluent from Discharge Point Nos. 003 and 004 is primarily composed of storm water runoff, mass-based effluent limitations are not included for those discharges.

2. Averaging Periods for Effluent Limitations

Title 40 CFR 122.45 (d) requires average weekly and average monthly discharge limitations for publicly owned treatment works (POTWs) unless impracticable. However, for toxic pollutants and pollutant parameters in water quality permitting, the 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 utilizes maximum daily effluent limitations in lieu of average weekly effluent limitations for ammonia, benzene, bromoform, chlorodibromomethane, chloroform, cis-1,2-dichloroethylene, dichlorobromomethane, electrical conductivity, ethylbenzene, tetrachloroethene, toluene, trichloroethene, and xylene as recommended by the TSD for the achievement of water quality standards and for the protection of the beneficial uses of the receiving stream. Furthermore, for BOD_5, TSS, pH, total chlorine residual, and total coliform, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in Attachment F, section IV.C.3, above.

TENTATIVE DRAFT

3. Satisfaction of Anti-Backsliding Requirements

Some effluent limitations in this Order are less stringent that those in the previous Order. As discussed below this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

a. Turbidity

Order No. R5-2003-0065 contained effluent limitations for turbidity. The limitations were solely an operational check to ensure the treatment system was functioning properly and could meet the limits for total suspended solids and total coliform organisms. The effluent limitations were not intended to regulate turbidity in the receiving water. Rather, turbidity is an operational parameter to determine proper system functioning and not a WQBEL.

This Order contains performance-based operational turbidity specifications to be met prior to disinfection in lieu of effluent limitations. This Order does not include effluent limitations for turbidity. However, the performance-based specification in this Order is an equivalent limitation that is not less stringent, and therefore does not constitute backsliding.

The proposed revised operational specifications for turbidity are the same as the effluent limitations in Order No. R5-2003-0065. (See Special Provisions VI.C.4.b. UV System Operating Specifications for turbidity specifications.) This Order moves the point of compliance from the final effluent after disinfection to an internal compliance point prior to disinfection. These revisions are consistent with state regulations implementing recycled water requirements.

The revision in the turbidity limitation is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16 because this Order imposes equivalent or more stringent requirements than Order No. R5-2003-0065 and therefore does not allow degradation.

b. Oil and Grease

Order No. R5-2003-0065 established effluent limitations for oil and grease. Monitoring data over the term of Order No. R5-2003-0065 indicated that concentrations of oil and grease in the effluent from Discharge Point No. 001 were below the levels of detection for all but one sampling event, which occurred in November 2004. Therefore, the discharge no longer exhibits reasonable potential to exceed water quality objectives for oil and grease. The monitoring data submitted by the Facility is considered new information by the Regional Board.

c. Salinity

Order No. R5-2003-0065 included an AMEL for electrical conductivity of 700 µmhos/cm based on the water quality objective for the southern Delta contained in the Bay-Delta Plan, which was applicable throughout the year. CWA section 402(o)(2) specifies that effluent limitations may be relaxed if there is new

TENTATIVE DRAFT

information that was not available at the time of permit issuance. The State Water Board clarified in the 2006 update that the numeric objectives were generally applicable throughout southern Delta waterbodies, and not just at the specified monitoring locations, which is considered new information about the water quality objective. Additionally, CWA section 402(o)(2) specifies that effluent limitations may be relaxed if the permittee is unable to meet the permit limitations after properly operating and maintaining the required treatment facilities. The Discharger has completed a treatment feasibility study and pollution prevention plan for electrical conductivity and is also in the process of constructing a reverse-osmosis water treatment plant to reduce levels of salinity in the water supply. Despite efforts to reduce salinity in the discharge, the Discharger has been unable to consistently comply with this effluent limitation. Because the State Water Board specifies that the numeric objectives are generally applicable to the southern Delta waterbodies and because the Discharger is unable to achieve compliance with the effluent limitations for electrical conductivity despite the proper operation and maintenance of the Facility, this Order revises the effluent limitations for electrical conductivity to consist of an AMEL of 700 µmhos/cm applicable from 1 April through 31 August and an AMEL of 1,000 µmhos/cm applicable from 1 September through 31 March to be consistent with the seasonal water quality objectives contained in the Bay-Delta Plan.

The Regional Water Board staff guidance on salinity states that prescribing either TDS or EC limits is generally sufficiently protective of water quality standards for salt constituents. Therefore, this Order will require compliance with EC effluent limitations as described above and consistent with the Bay-Delta Plan for control of salinity (i.e., limitations for TDS from Order No. R5-2003-0065 are not retained in this Order).

Order No. R5-2003-0065 also contained an MDEL of 1,600 µmhos/cm which was based on the upper level secondary MCL for electrical conductivity. This Order directly applies the Bay-Delta Plan objectives for EC, which should be protective receiving water quality, negating the need for the MDEL from Order No. R5-2003-0065.

d. Settleable Solids

Effluent limitations for settleable solids have not been retained in this Order for Discharge Point No. 001. For the Facility, like other facilities achieving secondary or more advanced levels of treatment, the Regional Water Board has determined that compliance with the requirements of 40 CFR Part 133 will likewise assure removal of settleable solids to acceptably low levels - below 0.1 ml/l/hr (monthly average) and 0.2 ml/l/hr (daily maximum).

e. Nitrate (MDEL)

The MDEL for nitrate has not been retained by this Order for Discharge Point No. 001. Use of solely an AMEL for nitrate is consistent with the current approach used by the Regional Water Board staff. This approach is also consistent with recent direction provided by DPH for implementing MCLs as effluent limitations in

TENTATIVE DRAFT

NPDES permits. Also, because the basis for the effluent limitations for nitrate are MCLs, the concern is related longer-term exposure of humans to the effluent. As such, requiring compliance with an MDEL would not be necessary for protection of human health (as compared to an AMEL).

4. Satisfaction of Antidegradation Policy

a. **Surface Water.** The permitted surface water discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. This Order does not allow for an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is not necessary. The Order requires compliance with applicable federal technology-based standards and with WQBELs where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. 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 an unlined aerated lagoon and two unlined facultative (holding) ponds. Domestic wastewater contains constituents such as total dissolved solids, specific conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD_5). Percolation from the lagoon and 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 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 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.

TENTATIVE DRAFT

Summary of Final Effluent Limitations

Table F-19. Summary of Final Effluent Limitations – Discharge Point No. 001

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Average Dry Weather Flow	MGD	0.62	--	--	--	--	DC
Conventional Pollutants							
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	10	15	20	--	--	TTC
	lbs/day[2]	52	78	103	--	--	
	% Removal	85[3]	--	--	--	--	CFR
pH	standard units	--	--	--	6.5	8.5	BP
Total Suspended Solids	mg/L	10	15	20	--	--	TTC
	lbs/day[2]	52	78	103	--	--	
	% Removal	85[3]	--	--	--	--	CFR
Priority Pollutants							
Bromoform	µg/L	4.3	--	5.8	--	--	CTR
Chlorodibromomethane	µg/L	0.41	--	0.58	--	--	CTR
Dichlorobromomethane	µg/L	0.56	--	0.82	--	--	CTR
Non-Conventional Pollutants							
Ammonia Nitrogen, Total (as N)	mg/L	0.7	--	2.2	--	--	NAWQC
	lbs/day[2]	3.6	--	11.4	--	--	
Chlorine, Total Residual	mg/L	--	0.011[4]	0.019	--	--	NAWQC
Electrical Conductivity @ 25°C	µmhos/cm	700[5]	--	--	--	--	BD, MCL
		1,000[6]					
Nitrate Nitrogen, Total (as N)	mg/L	10	--	--	--	--	MCL
Temperature	°F	--	--	20[7]	--	--	TP
Total Coliform Organisms	MPN/100 mL	--	2.2[8]	23[9]	--	240	Title 22

[1] DC – Based on the design capacity of the Facility.
TTC – Based on tertiary treatment capability. These effluent limitations reflect the capability of a properly operated tertiary treatment plant.
CFR – Based on secondary treatment standards contained in 40 CFR Part 133.
BP – Based on water quality objectives contained in the Basin Plan.
MCL – Based on the Primary Maximum Contaminant Level.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
NAWQC – Based on USEPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
BD – Based on water quality objectives contained in the Bay-Delta Plan.
Title 22 – Based on CA Department of Public Health Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).
AGR – Based on water quality criteria for the protection of agriculture.
TP – Thermal Plan

[2] Based on a design flow of 0.62 MGD.

[3] The average monthly percent removal of BOD_5 and TSS shall not be less than 85 percent.

[4] Applied as a 4-day average effluent limitation.

[5] Applies from 1 April through 31 August.

[6] Applies from 1 September through 31 March.

[7] The maximum effluent temperature shall not exceed the natural receiving water by more than 20°F.

[8] Applied as a 7-day median effluent limitation.

[9] Effluent total coliform organisms are not to exceed 23 MPN/100 mL more than once in any 30-day period.

TENTATIVE DRAFT

Table F-20. Summary of Final Effluent Limitations – Discharge Point No. 003

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Priority Pollutants							
Benzene	µg/L	0.5	--	1.0	--	--	BPJ
Bromoform	µg/L	0.5	--	1.0	--	--	BPJ
Chlorodibromomethane	µg/L	0.5	--	1.0	--	--	BPJ
Chloroform	µg/L	0.5	--	1.0	--	--	BPJ
Ethylbenzene	µg/L	0.5	--	1.0	--	--	BPJ
Tetrachloroethene	µg/L	0.5	--	1.0	--	--	BPJ
Toluene	µg/L	0.5	--	1.0	--	--	BPJ
Trichloroethene	µg/L	0.5	--	1.0	--	--	BPJ
Non-Conventional Pollutants							
cis-1,2-Dichloroethylene	µg/L	0.5	--	1.0	--	--	BPJ
Xylene	µg/L	0.5	--	1.0	--	--	BPJ

[1] BPJ – Based on Best Professional Judgment (technology-based effluent limitations).

Table F-21. Summary of Final Effluent Limitations – Discharge Point No. 004

Parameter	Units	Effluent Limitations					Basis[1]
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Priority Pollutants							
Benzene	µg/L	0.5	--	1.0	--	--	BPJ
Bromoform	µg/L	0.5	--	1.0	--	--	BPJ
Chloroform	µg/L	0.5	--	1.0	--	--	BPJ
Dibromochloro-methane	µg/L	0.5	--	1.0	--	--	BPJ
Ethylbenzene	µg/L	0.5	--	1.0	--	--	BPJ
Tetrachloroethene	µg/L	0.5	--	1.0	--	--	BPJ
Toluene	µg/L	0.5	--	1.0	--	--	BPJ
Trichloroethene	µg/L	0.5	--	1.0	--	--	BPJ
Non-Conventional Pollutants							
cis-1,2-Dichloroethylene	µg/L	0.5	--	1.0	--	--	BPJ
Xylene	µg/L	0.5	--	1.0	--	--	BPJ

[1] BPJ – Based on Best Professional Judgment (technology-based effluent limitations).

E. Interim Effluent Limitations

1. **Disinfection Requirements.** The establishment of the more stringent BOD_5 and TSS tertiary effluent limitations has not been previously required for this discharge; therefore, a schedule for compliance with the tertiary treatment requirements is included as a Provision in this Order. Interim limitations at Discharge Point No. 001 for BOD_5 and TSS are established at the levels required by Order No. R5-2003-0065, which the Discharger is capable of meeting. Full compliance with the final effluent limitations for BOD_5 and TSS is not required until 31 December 2009, coinciding with the completion of the new tertiary treatment plant. Mass-based interim limitations are established based on the design flow of the current treatment plant of 0.62 MGD. The following table summarizes the interim effluent limitations

TENTATIVE DRAFT

for BOD_5 and TSS. Interim effluent limitations are also included for total coliform organisms as the Discharger is unable to comply with the requirement to meet 2.2 MPN/100 mL as a 7-day median.

Table F-22. Interim Effluent Limitations – BOD_5 and TSS at Discharge Point No. 001

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	20	30	40
	lbs/day[1]	103	155	207
Total Suspended Solids	mg/L	20	30	40
	lbs/day[1]	103	155	207

[1] Based on a permitted flow of 0.62 MGD.

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

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

2. **Ammonia.** The establishment of the more stringent ammonia effluent limitations has not been previously required for this discharge; therefore, a schedule for compliance is included as a Provision in this Order. The interim limitation for ammonia in this Order is based on the current treatment plant performance. In developing the interim limitation, where there are 10 sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row). Therefore, the interim limitation in this Order is calculated as the mean plus 3.3 standard deviations of the available data.

   Table F-23 summarizes the calculations of the interim effluent limitations for ammonia:

Table F-23. Interim Effluent Limitation Calculation Summary

Parameter	Units	MEC	Mean	Std. Dev.	# of Samples	Interim Limitation
Ammonia Nitrogen, Total (as N)	mg/L	4.4	0.14	0.38	141	1.4

Because the maximum effluent concentration for ammonia is greater than the statistically calculated effluent limitation, interim limitations were established at the maximum effluent concentration (4.4 mg/L).

F. Land Discharge Specifications

[Not Applicable]

G. Reclamation Specifications

Order No. R5-2003-0065 established reclamation requirements because the Discharger planned to use a portion of the tertiary treated effluent for specific reclamation uses.

TENTATIVE DRAFT

However, during the site visit on 22 March 2008, the Discharger stated that they are no longer planning to use the reclaimed water. Therefore, reclamation specifications have not been retained in this Order.

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.

TENTATIVE DRAFT

A. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that "[t]*he numerical and narrative water quality objectives define the least stringent standards that the Regional 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 bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, toxicity, and turbidity. The receiving water limitation for dissolved oxygen has been revised from Order No. R5-2003-0065 to reflect the specific water quality objective for the Delta specified in the Basin Plan.

   This Order also contains receiving surface water limitations based on the Thermal Plan for existing discharges of elevated temperature waste to an estuary.

B. Groundwater

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

2. Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that 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 states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.

3. Order No. R5-2003-0065 contained groundwater limitations due to the potential for percolation of wastewater from the unlined aerated lagoon and two unlined facultative/holding ponds. Although monitoring during 2005 by the Discharger indicated no impact from the unlined lagoon and ponds, these units are still in use and therefore the groundwater limitations are being retained from Order No. R5-2003-0065 to protect the beneficial uses of the underlying groundwater.

TENTATIVE DRAFT

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 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD_5 and TSS reduction requirements).

2. Monitoring requirements for flow (continuous), electrical conductivity (weekly), and total dissolved solids (monthly) have been retained from Order No. R5-2003-0065. Influent monitoring requirements for total ammonia and un-ionized ammonia have been discontinued as this data is not necessary for monitoring performance of the treatment plant.

3. The Regional Water Board adopted Resolution No. R5-2005-0151 which modified monitoring frequencies for several parameters to be consistent with requirements of other dischargers throughout the region. Consistent with Resolution No. R5-2005-0151, monitoring requirements for pH (weekly), BOD_5 (twice per week), and TSS

(twice per week) have been established in this Order, while monitoring requirements for nitrate and temperature have been discontinued.

4. Resolution No. R5-2005-0151 also added a footnote that 24-hour composite samples shall be flow proportioned. This footnote is retained in 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.

2. **Discharge Point No. 001**

   a. Effluent monitoring frequencies and sample types for flow (continuous), chlorine residual (daily), pH (daily), temperature (daily), and total ammonia (weekly) have been retained from Order No. R5-2003-0065 to characterize the wastewater and determine compliance with effluent limitations for these parameters. The existing monitoring requirements for un-ionized ammonia (weekly) have been removed as this data is no longer necessary to determine compliance with water quality objectives.

   b. Consistent with Resolution No. R5-2005-0151, monitoring requirements for BOD_5 (twice per week), TSS (twice per week), and total coliform (weekly) have been established in this Order. Annual monitoring requirements for standard minerals have been discontinued as this data is no longer needed.

   c. Resolution No. R5-2005-0151 also added a footnote that 24-hour composite samples shall be flow proportioned. This footnote is retained in this Order.

   d. Resolution No. R5-2008-0119 reduced the monitoring frequencies for electrical conductivity (from 1/day to 1 month), total dissolved solids (from 1/week to 2/year), and nitrate (from 1/week to 1/month). These revised monitoring frequencies have been established in this Order. In addition, the existing monthly monitoring frequency for chloride has been reduced to be consistent with the frequency for total dissolved solids.

   e. Order No. R5-2003-0065 contained a final effluent limitation for turbidity to become effective beginning 1 March 2008, coinciding with the compliance time schedule for meeting tertiary effluent limitations. Order No. R5-2003-0065 also included monitoring requirements for turbidity, but did not specify when monitoring was to begin. The Regional Water Board adopted Resolution No. R5-2003-0109 which specified that "*turbidity monitoring and reporting shall commence on 1 March 2008*." Since the adoption of Resolution No. R5-2003-0109, the Regional Water Board adopted CDO No. R5-2005-0152 which granted a compliance schedule with a final compliance date of 1 March 2009 for turbidity. This Order does not require monitoring for turbidity until completion of construction of the new treatment plant (31 December 2009).

TENTATIVE DRAFT

f. Order No. R5-2003-0065 required monthly monitoring of VOCs. Monitoring data submitted by the Discharger during the term of Order No. R5-2003-0065 indicates that the discharge has reasonable potential to exceed water quality criteria for bromoform, chlorodibromomethane, and dichlorobromomethane. Therefore, monthly monitoring using grab samples is required, consistent with Order No. R5-2003-0065, for bromoform, chlorodibromomethane, and dichlorobromomethane to determine compliance with the applicable effluent limitations.

   As discussed in section IV.C.3.f.i, because the only detection of benzene was based on a potentially contaminated sample, reasonable potential to exceed water quality objectives cannot be determined. To collect the data necessary to determine the prevalence in the effluent, monthly monitoring for benzene using grab samples is required, consistent with Order No. R5-2003-0065.

   The remaining VOCs did not exhibit reasonable potential to exceed water quality criteria. Therefore, monitoring for the remaining VOCs will be included in the priority pollutant sampling described in section VI.B.h below and specific monitoring requirements for the remaining VOCs are not included in this Order.

g. The Sacramento – San Joaquin Delta is on the 303(d) list for mercury. The Regional Water Board is proposing to adopt a TMDL for total mercury and/or methylmercury in 2008. Therefore, this Order establishes monthly monitoring for total mercury and methylmercury in order to collect data on the presence of mercury in the effluent.

h. Quarterly monitoring during the third year of the permit term for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established has been required in this Order in accordance with Section 1.3 of the SIP requiring dischargers to conduct periodic monitoring for priority pollutants. Additional sampling may be required for priority pollutants found during the third-year sampling to provide sufficient data for renewal of the Order.

3. **Discharge Point No. 003**

a. Daily monitoring for flow when discharges to Deuel Drain occur is retained from Order No. R5-2003-0065.

b. Consistent with Resolution No. R5-2005-0152, and due to the possibility of mixture of SSOs and storm water, monthly monitoring when discharges to Deuel Drain occur for BOD_5, total coliform organisms, electrical conductivity, and total dissolved solids has been established in this Order. Due to the fact that chlorine is no longer used for control of SSOs, no monitoring for chlorine residual will be required.

c. Order No. R5-2003-0065 established effluent limitations for benzene, bromoform, chloroform, chlorodibromomethane, cis-1,2-dichloroethylene, ethylbenzene, tetrachloroethene, toluene, trichloroethene, and xylene and required monthly monitoring of VOCs. Monitoring data submitted by the Discharger during the term of Order No. R5-2003-0065 indicates that the discharge has reasonable

TENTATIVE DRAFT

potential to exceed water quality criteria for tetrachloroethylene only. However, this Order retains the technology-based effluent limitations for benzene, bromoform, chloroform, chlorodibromomethane, cis-1,2-dichloroethylene, ethylbenzene, tetrachloroethene, toluene, trichloroethene, and xylene due to the presence of many of these parameters in concentrations that exceed the appropriate technology-based effluent limitations. Therefore, monthly monitoring using grab samples is required when discharges to Deuel Drain occur, consistent with Order No. R5-2003-0065, for benzene, bromoform, chloroform, chlorodibromomethane, cis-1,2-dichloroethylene, ethylbenzene, tetrachloroethene, toluene, trichloroethene, and xylene to determine compliance with the applicable effluent limitations. The remaining VOCs did not exhibit reasonable potential to exceed water quality criteria and do not have effluent limitations. Therefore, specific monitoring requirements for the remaining VOCs are not included in this Order.

TENTATIVE DRAFT

4. Discharge Point No. 004

a. Daily monitoring for flow when discharges to Deuel Drain occur is retained from Order No. R5-2003-0065.

b. Consistent with Resolution No. R5-2005-0152, monthly monitoring when discharges to Deuel Drain occur for BOD_5, total coliform organisms, electrical conductivity, and total dissolved solids has been established in this Order. Due to the fact that chlorine is no longer used for control of SSOs, no monitoring for chlorine residual will be required.

c. Order No. R5-2003-0065 established effluent limitations for benzene, bromoform, chloroform, chlorodibromomethane, cis-1,2-dichloroethylene, ethylbenzene, tetrachloroethene, toluene, trichloroethene, and xylene and required monthly monitoring of VOCs. Monitoring data submitted by the Discharger during the term of Order No. R5-2003-0065 indicates that the discharge has reasonable potential to exceed water quality criteria for tetrachloroethylene, trichloroethylene, and cis-1,2-dichloroethylene only. However, this Order retains the technology-based effluent limitations for benzene, bromoform, chloroform, chlorodibromomethane, cis-1,2-dichloroethylene, ethylbenzene, tetrachloroethene, toluene, trichloroethene, and xylene due to the presence of many of these parameters in concentrations that exceed the appropriate technology-based effluent limitations. Therefore, monthly monitoring using grab samples is required, when discharges to Deuel Drain occur, consistent with Order No. R5-2003-0065, for benzene, bromoform, chloroform, chlorodibromomethane, cis-1,2-dichloroethylene, ethylbenzene, tetrachloroethene, toluene, trichloroethene, and xylene to determine compliance with the applicable effluent limitations. The remaining VOCs did not exhibit reasonable potential to exceed water quality criteria and do not have effluent limitations. Therefore, specific monitoring requirements for the remaining VOCs are not included in this Order.

C. Whole Effluent Toxicity Testing Requirements

1. **Discharge Point No. 001**

a. **Acute Toxicity.** Order No. R5-2003-0065 required weekly, flow-through acute toxicity testing. Resolution No. R5-2003-0109 modified the monitoring and reporting program to allow grab samples. In addition, Resolution No R5-2005-0151 reduced the monitoring frequency to quarterly. Consistent with Resolution No. R5-2005-0151, this Order requires quarterly flow through or grab samples and 96-hour bioassay testing to demonstrate compliance with the effluent limitation for acute toxicity.

b. **Chronic Toxicity.** Monitoring data over the term of Order No. R5-2003-0065 indicates that the discharge exhibited reasonable potential to exceed the Basin Plan's narrative toxicity objective. This Order retains quarterly chronic whole effluent toxicity testing 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. The monthly monitoring requirements for total dissolved solids, total and un-ionized ammonia, and nitrate have been retained from Order No. R5-2003-0065.

b. Consistent with Resolution No. R5-2005-0151, twice monthly monitoring for dissolved oxygen, pH, turbidity, temperature, electrical conductivity, fecal coliform organisms, and chlorine residual and annual monitoring for standard minerals is established in this Order. The annual monitoring requirement for radionuclides that was required as part of Resolution No. R5-2005-0151 has been discontinued as there is no known source of radionuclides at the Facility, and previous monitoring indicated no detectable amounts.

c. Quarterly monitoring for priority pollutants during the third year of the permit is required to collect the necessary data to determine reasonable potential as required in section 1.2 of the SIP. The hardness (as $CaCO_3$) of the upstream receiving water shall also be monitoring concurrently with the priority pollutants as well as pH to ensure the water quality criteria/objectives are correctly adjusted for the receiving water when determining reasonable potential as specified in section 1.3 of the SIP.

d. The upstream monitoring location (R-1A) identified in Order No. R5-2003-0065 was located 450 feet upstream from Discharge Point No. 001, but downstream from Discharge Point Nos. 003 and 004. In order to obtain representative upstream monitoring data beyond the influence of any of the discharges, this Order relocates the upstream monitoring location to 450 feet upstream of Discharge Point No. 003, which is located upstream of Discharge Point Nos. 001 and 004. Additionally, to be consistent with standard monitoring location naming conventions, R-1A and R-2A are identified as RSW-001 and RSW-002, respectively, in this Order.

TENTATIVE DRAFT

2. Groundwater

a. Section 13267 of the California Water Code 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, the 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 (Attachment E) is issued pursuant to California 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 continue to determine if percolation of wastewater contained in the unlined aerated lagoon and unlined facultative/holding ponds at the Facility cause an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, assess groundwater impacts including the vertical and lateral extent of degradation for all wastewater-related constituents which may have migrated to groundwater. If impacts are identified as a result of the groundwater monitoring, the Discharger must analyze 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 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. 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 68-16 and the Basin Plan.

c. Groundwater monitoring data collected during the previous permit term (in 2005) showed no change in groundwater quality in monitoring wells downstream of wastewater ponds compared to monitoring wells upstream of lagoon and ponds. This Order requires the Discharger to continue groundwater monitoring in accordance with the monitoring plan approved under the previous Order and

TENTATIVE DRAFT

includes a regular schedule for 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 Regional Water Board plans and policies, including Resolution 68-16. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

d. Quarterly groundwater monitoring of ammonia, electrical conductivity, groundwater elevation, pH, nitrate, total coliform organisms, and total dissolved solids has been retained from Order No. R5-2003-0065.

E. Other Monitoring Requirements

1. Reclamation Monitoring

Order No. R5-2003-0065 established reclamation requirements because the Discharger planned to use a portion of the tertiary treated effluent for specific reclamation uses. However, during the site visit on 22 March 2008, the Discharger stated that they are no longer planning to use the reclaimed water. Therefore, reclamation monitoring requirements have not been retained in this Order.

2. Biosolids Monitoring

Biosolids monitoring is required to ensure compliance with the biosolids disposal requirements (Special Provisions VI.C.5.b.). Biosolids disposal requirements are imposed pursuant to 40 CFR Part 503 to protect public health and prevent groundwater degradation.

Order No. R5-2003-0065 required annual monitoring of the priority pollutants listed in 40 CFR Part 122, Appendix D, Tables II and III (excluding phenols). The Regional Water Board finds that annual monitoring of the metals listed in 40 CFR Part 122, Appendix D, Table III (excluding total phenols) is a reasonable requirement for minor POTWs. Therefore, annual monitoring requirements for the remaining priority pollutants have been discontinued.

3. Water Supply Monitoring

TENTATIVE DRAFT

Water supply monitoring is required to evaluate the source of constituents in the wastewater. Local groundwater serves as the drinking water supply for Facility, which contributes a significant portion of the salinity in the influent wastewater. The Discharger is currently in the process of building a reverse osmosis water treatment plant which should reduce the salinity in the influent and address the high levels of salinity in the effluent. Construction of the water treatment plant is scheduled to be completed by 1 March 2009. This Order retains water supply monitoring requirements from Order No. R5-2003-0065, however, it is not required to commence until start-up of the new reverse osmosis treatment system.

4. **Ultraviolet Light (UV) Disinfection System Monitoring**

UV system specifications and monitoring and reporting are required starting 31 December 2009 to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens (e.g., viruses) in the wastewater. UV disinfection system monitoring requirements are imposed pursuant to requirements established by the California Department of Public Health, (DPH) and the National Water Research Institute (NWRI) and American Water Works Association Research Foundation NWRI/AWWARF's *"Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse.*

TENTATIVE DRAFT

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 CFR122.42.

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.** 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 an effluent concentration limitation imposed. If the Regional Water Board determines that a mercury offset program is feasible for Dischargers

subject to a NPDES permit, then this Order may be reopened to evaluate the need for mercury mass loading limitation(s) and the need for a mercury offset program for the Discharger.

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.

TENTATIVE DRAFT

2. Special Studies and Additional Monitoring Requirements

a. Chronic Whole Effluent Toxicity Requirements. The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at III-8.00.) Based on quarterly whole effluent chronic toxicity testing performed by the Discharger from November 2004 through October 2007 at Discharge Point No. 001, the discharge has reasonable potential to cause or contribute to an to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

This provision requires the Discharger to develop a Toxicity Reduction Evaluation (TRE) Work Plan in accordance with USEPA guidance for Discharge Point No. 001. The Discharger was required to develop a TRE to investigate the causes of toxicity in 2005. The Discharger shall build on those efforts to control the toxicity recently identified in discharges from Discharge Point No. 001. In addition, the provision provides a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of 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 a pattern of toxicity at 100% effluent.

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

The provision requires accelerated monitoring consisting of four chronic toxicity tests every 2 weeks using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support*

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

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

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

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

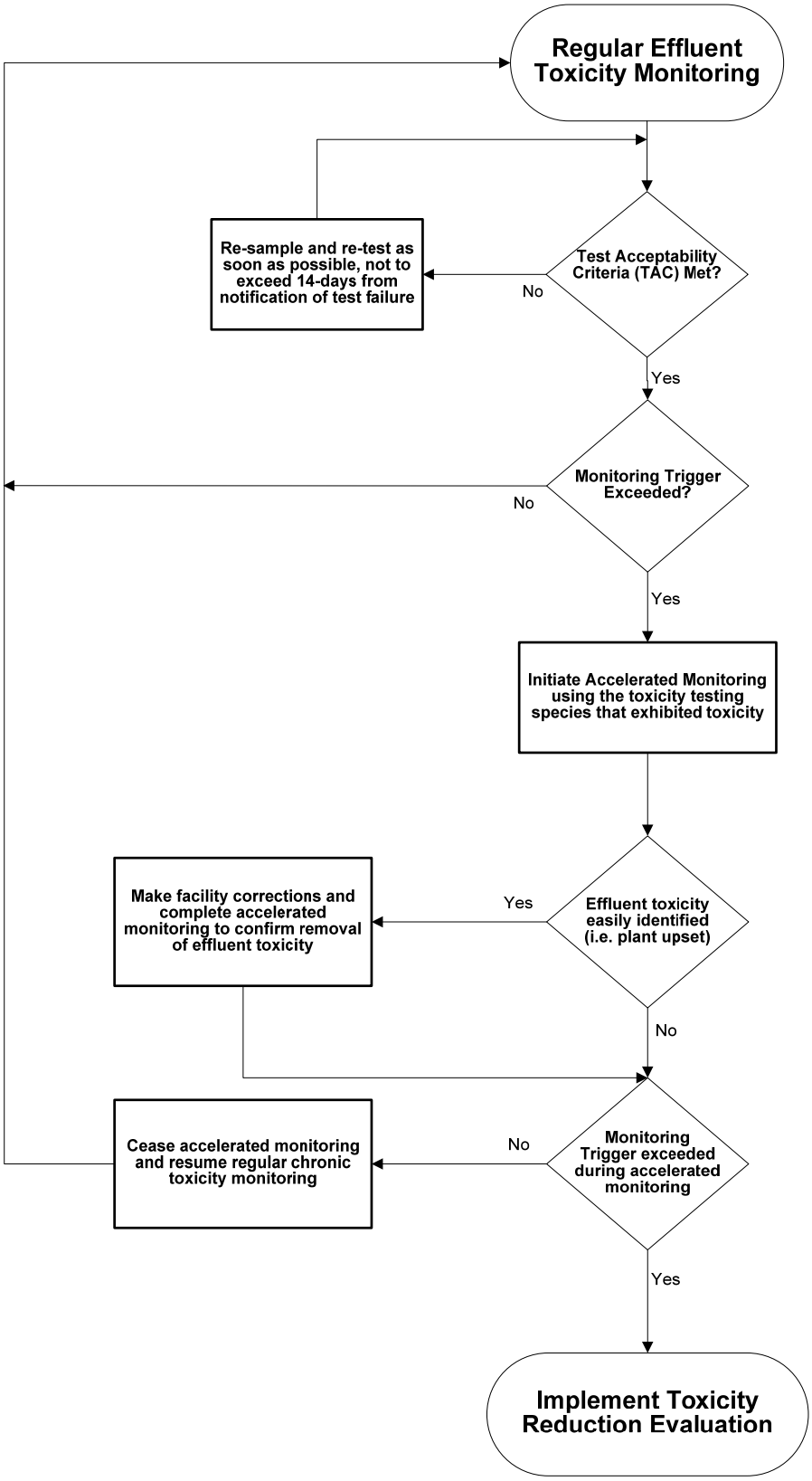
TENTATIVE DRAFT

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

TENTATIVE

DRAFT

Figure F-1
WET Accelerated Monitoring Flow Chart



TENTATIVE DRAFT

b. **Groundwater Monitoring.** To determine compliance with Groundwater Limitations V.B., the Discharger is required to monitor groundwater in accordance with the monitoring plan approved under Order No. R5-2003-0065. 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 6 months following the first year of monitoring that documents constituent concentrations increased beyond background water quality, 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 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.

TENTATIVE DRAFT

3. Best Management Practices and Pollution Prevention

a. **Storm Water Pollution Prevention Plan (SWPPP).** To carry out the purpose and intent of the CWA, this Order requires the Discharger to develop and implement a SWPPP in accordance with the requirements contained in Attachment I, as authorized by CWA section 304(e) and section 402(p), for toxic pollutants and hazardous substances, and for the control of storm water discharges.

Previously, industrial wastes and sewage spills and overflows were routed to Discharge Point No. 003 and 004 through floor drains. During the term of Order No. R5-2003-0065, the Discharger modified operating procedures, lined the storm water drains (for Discharge Point No. 004), and removed all industrial connections to the drains. The Discharger shall include in the SWPPP a Spill Contingency Plan to continue to prevent the unauthorized discharge of industrial wastes and sewage spills and overflows from Discharge Point Nos. 003 and 004 and to ensure that the effluent from Discharge Point Nos. 003 and 004 consists only of storm water runoff.

4. Construction, Operation, and Maintenance Specifications

a. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency. This provision is retained from Order No. R5-2003-0065.

b. **UV Disinfection System Operating Specifications.** UV system specifications and monitoring and reporting is required when the system becomes operational to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens e.g. viruses in the wastewater. UV dosage is dependent on several factors such as UV transmittance, UV power setting, wastewater turbidity, and

wastewater flow through the UV System. Monitoring and reporting of these parameters is necessary to determine compliance with minimum dosage requirements established by the California Department of Public Health, (DPH) and the National Water Research Institute (NWRI) and American Water Works Association Research Foundation NWRI/AWWARF's "Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse" first published in December 2000 revised as a Second Edition dated May 2003. In addition, a memorandum dated 1 November 2004 issued by DPH to Regional Water Board executive officers recommended that provisions be included in permits to water recycling treatment plants employing UV disinfection requiring Dischargers to establish fixed cleaning frequency of quartz sleeves as well as include provisions that specify minimum delivered UV dose that must be maintained (as recommended by the NWRI/AWWARF UV Disinfection Guidelines).

Turbidity is included as an operational specification as an indicator of the effectiveness of the treatment process and to assure compliance with effluent limitations for total coliform organisms. The tertiary treatment process is capable of reliably meeting a turbidity limitation of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the treatment system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity and could impact UV dosage. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. The operational specification requires that turbidity prior to disinfection shall not exceed 2 NTU as a daily average; 5 NTU, more than 5 percent of the time within a 24-hour period, and an instantaneous maximum of 10 NTU.

Minimum UV dosage and turbidity specifications are included as operating criteria in section VI.C.4 of this Order and section IX.C of the Monitoring and Reporting Program (Attachment E) to ensure that adequate disinfection of wastewater is consistently achieved once the new treatment system is operational after 31 December 2009.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. 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.

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

TENTATIVE DRAFT

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. The Discharger applied for coverage on 30 January 2007, and is currently enrolled under the General Order.

b. Based on a request from the Discharger, the requirement for biosolids storage facilities to be designed and maintained to prevent washout or inundation from a storm or flood with a return frequency of 100 years was changed to not apply to the solar drying of biosolids during the non-flood season (April through October), provided that biosolids are removed and disposed of prior to 1 November of each year. Allowing use of the existing sludge drying beds during the dry season, when the 100-year flood would not occur, allows a reduction in the amount of biosolids that must be transported off-site for disposal.

6. Other Special Provisions

a. To maintain the accountability of the operation of the Facility, the Discharger is required to notify the succeeding owner or operator of the existence of this Order by letter if, and when, there is any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger.

7. Compliance Schedules

a. Consistent with Order No. R5-2003-0065 and CDO No. R5-2005-0152, this Order requires that, by 31 December 2009, wastewater discharged to Deuel Drain shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the DHS reclamation criteria, Title 22 CCR, Division 4, Chapter 3, (Title 22) or equivalent.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the California Department of Corrections and Rehabilitation, Deuel Vocational Institution. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

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

TENTATIVE DRAFT

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on **26 September 2008**.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: 23/24 October 2008
Time: 8:30 am
Location: Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

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

Please be aware that dates and venues may change. Our Web address is *http://www.waterboards.ca.gov/rwqcb5/* where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

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

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

TENTATIVE DRAFT

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (916) 464-3291.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Ken Landau at (916) 464-4726.

TENTATIVE

DRAFT

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Table G-1. RPA for Discharge Point No. 001

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Acetone	µg/L	30	NA	20,000	--	--	--	--	20,000[1]	--	N
Ammonia Nitrogen, Total (as N)	mg/L	4.4	13	1.35	2.14[2]	1.35[3]	--	--	--	--	Y
Benzene	µg/L	1.1	NA	1	--	--	1.2	71	--	1	Y[9]
Bromoform	µg/L	130	NA	4.3	--	--	4.3	360	--	80	Y
Chloride	mg/L	830	720	106	--	--	--	--	106[4]	250	Y
Chlorine, Total Residual	mg/L	1.2	NA	0.011	0.011[2]	0.019[5]	--	--	--	--	Y
Chlorodibromomethane	µg/L	69	NA	0.41	--	--	0.41	34	--	80	Y
Chloroform	µg/L	2.7	NA	80	--	--	--	--	--	80	N
Dichlorobromomethane	µg/L	13	NA	0.56	--	--	0.56	46	--	80	Y
Electrical Conductivity @ 25°C	µmhos/cm	3,000	5,100	700	--	--	--	--	700[6]	900	Y
Ethanol	µg/L	650	NA	760,000	--	--	--	--	760,000[1]	--	N
Ethylbenzene	µg/L	0.84	NA	300	--	--	3,100	29,000	--	300	N
Fluoride	µg/L	170	660	2,000	--	--	--	--	--	2,000	N
Methyl Bromide	µg/L	6.7	NA	48	--	--	48	4,000	--	--	N
Methylene Blue Active Substances	µg/L	120	100	500	--	--	--	--	--	500	N
Methylmercury	µg/L	0.00002	NA	0.07	--	--	--	--	0.07[7]	--	N
Methyl Tertiary Butyl Ether	µg/L	0.57	NA	5	--	--	--	--	--	5	N
Naphthalene	µg/L	6.7	NA	21	--	--	--	--	21[1]	--	N
Nitrate Nitrogen, Total (as N)	mg/L	130	32	10	--	--	--	--	--	10	Y
Nitrate Nitrogen, Total (as NO_3)	mg/L	110	80	45	--	--	--	--	--	45	Y
Phosphorus	µg/L	11,000	NA	0.14	--	--	--	--	0.14[8]	--	Y
Sulfate	mg/L	170	820	250	--	--	--	--	--	250	Y
Toluene	µg/L	2.4	NA	150	--	--	6,800	200,000	--	150	N
Total Dissolved Solids	mg/L	2,000	3,300	450	--	--	--	--	450[4]	500	Y[10]
Trichloroethylene	µg/L	1.3	NA	2.7	--	--	2.7	81	--	5	N
1,2,4-Trimethylbenzene	µg/L	0.86	NA	NC	--	--	--	--	--	--	N
Xylene	µg/L	3.6	NA	17	--	--	--	--	17[1]	--	N

TENTATIVE DRAFT

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential

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
NC = No Criteria

Footnotes:

[1] Taste and Odor Threshold
[2] USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 1-hour Average
[3] USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 30-day Average
[4] Water Quality for Agriculture
[5] USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 4-day Average
[6] Water quality objective for the southern Delta contained in the Bay-Delta Plan
[7] USEPA IRIS Reference Dose as a Drinking Water Level
[8] USEPA IRIS Reference Dose for white phosphorus. The Regional Water Board staff are still considering the applicability and relationship of this criterion to total phosphorus.
[9] Due to possible sample contamination, the effluent data is suspect and no effluent limitations are established at this time. Additional monitoring will be required to verify reasonable potential does not exist.
[10] Effluent limitations for electrical conductivity are established in accordance with the Bay-Delta Plan and as a means to control the discharge of salinity. No effluent limitations for total dissolved solids will be established in this Order.

TENTATIVE DRAFT

Table G-2. RPA for Discharge Point No. 003

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Acetone	µg/L	39	NA	20,000	--	--	--	--	20,000[1]	--	N
Ammonia Nitrogen, Total (as N)	mg/L	0.12	NA	1.35	2.14[2]	1.35[3]	--	--	--	--	N
Benzene	µg/L	0.75	NA	1	--	--	1.2	71	--	1	N
Bromoform	µg/L	1.6	NA	4.3	--	--	4.3	360	--	80	N
Chlorine, Total Residual	mg/L	0.05	NA	0.011	0.011[2]	0.019[4]	--	--	--	--	Y[7]
cis-1,2-Dichloroethylene	µg/L	0.5	NA	6	--	--	--	--	--	6	N
Electrical Conductivity @ 25°C	µmhos/cm	5,100	NA	700	--	--	--	--	700[5]	900	Y[7]
Ethanol	µg/L	1,100	NA	760,000	--	--	--	--	760,000[1]	--	N
Methyl Tertiary Butyl Ether	µg/L	0.73	NA	5	--	--	--	--	--	5	N
Tetrachloroethylene	µg/L	1.5	NA	0.8	--	--	0.8	8.85	--	5	Y
Total Dissolved Solids	mg/L	3,700	NA	450	--	--	--	--	450[6]	500	Y[7]
Trichloroethylene	µg/L	1.3	NA	2.7	--	--	2.7	81	--	5	N
Xylene	µg/L	1.8	NA	17	--	--	--	--	17[1]	--	N

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

Footnotes:
1 Taste and Odor Threshold
2 USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 1-hour Average
3 USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 30-day Average
4 USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 4-day Average
5 Water quality objective for the southern Delta contained in the Bay-Delta Plan
6 Water Quality for Agriculture
7 Due to the lack of representative data, no effluent limitations are being established in this Order for these constituents.

TENTATIVE DRAFT

Table G-3. RPA for Discharge Point No. 004

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Acetone	µg/L	15	NA	20,000	--	--	--	--	20,000[1]	--	N
Ammonia Nitrogen, Total (as N)	mg/L	3.2	NA	1.35	2.14[2]	1.35[3]	--	--	--	--	Y[6]
Bromoform	µg/L	1.5	NA	4.3	--	--	4.3	360	--	80	N
cis-1,2-Dichloroethylene	µg/L	16	NA	6	--	--	--	--	--	6	Y
Electrical Conductivity @ 25°C	µmhos/cm	4,800	NA	700	--	--	--	--	700[4]	900	Y[6]
Ethanol	µg/L	540	NA	760,000	--	--	--	--	760,000[1]	--	N
Nitrate Nitrogen, Total (as N)	mg/L	93	NA	10	--	--	--	--	--	10	Y[6]
Styrene	µg/L	6.6	NA	11	--	--	--	--	11[1]	100	N
Tetrachloroethylene	µg/L	26	NA	0.8	--	--	0.8	8.85	--	5	Y
Toluene	µg/L	0.63	NA	150	--	--	6,800	200,000	--	150	N
Total Dissolved Solids	mg/L	4,000	NA	450	--	--	--	--	450[5]	500	Y[6]
Trichloroethylene	µg/L	2.7	NA	2.7	--	--	2.7	81	--	5	N

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

Footnotes:
1 Taste and Odor Threshold
2 USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 1-hour Average
3 USEPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 30-day Average
4 Water quality objective for the southern Delta contained in the Bay-Delta Plan
5 Water Quality for Agriculture
6 Due to the lack of representative data, no effluent limitations are being established in this Order for these constituents.

TENTATIVE DRAFT

ATTACHMENT H – EFFLUENT AND RECEIVING WATER MONITORING REQUIREMENTS

TENTATIVE DRAFT

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. In addition to specific requirements of the SIP, the Regional 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, Fourth Edition, for the Sacramento and San Joaquin River Basins* (Basin Plan). The Basin Plan defines virtually all surface waters within the Central Valley Region as having existing or potential beneficial uses for municipal and domestic supply. 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.

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. Quarterly Monitoring. Quarterly 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 H-1. Quarterly monitoring shall be conducted for 1 year (four consecutive samples, evenly distributed throughout the year) and the results of such monitoring be submitted to the Regional Water Board as part of the Report of Waste Discharge (as required on the Cover Page for the Order). 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 grab samples. All receiving water samples shall be taken as grab samples.

Table H-1. List of Pollutants to be Sampled

CTR #	Constituent	CAS Number	Controlling Water Quality Criterion for Surface Waters		Criterion Quantitation Limit ug/L or noted	Suggested Test Methods
			Basis	Criterion Concentration ug/L or noted[1]		
VOLATILE ORGANICS						
28	1,1-Dichloroethane	75343	Primary MCL	5	0.5	EPA 8260B
30	1,1-Dichloroethene	75354	National Toxics Rule	0.057	0.5	EPA 8260B
41	1,1,1-Trichloroethane	71556	Primary MCL	200	0.5	EPA 8260B
42	1,1,2-Trichloroethane	79005	National Toxics Rule	0.6	0.5	EPA 8260B
37	1,1,2,2-Tetrachloroethane	79345	National Toxics Rule	0.17	0.5	EPA 8260B
75	1,2-Dichlorobenzene	95501	Taste & Odor	10	0.5	EPA 8260B
29	1,2-Dichloroethane	107062	National Toxics Rule	0.38	0.5	EPA 8260B
	cis-1,2-Dichloroethylene	156592	Primary MCL	6	0.5	EPA 8260B
31	1,2-Dichloropropane	78875	Calif. Toxics Rule	0.52	0.5	EPA 8260B
101	1,2,4-Trichlorobenzene	120821	Public Health Goal	5	0.5	EPA 8260B
76	1,3-Dichlorobenzene	541731	Taste & Odor	10	0.5	EPA 8260B
32	1,3-Dichloropropene	542756	Primary MCL	0.5	0.5	EPA 8260B
77	1,4-Dichlorobenzene	106467	Primary MCL	5	0.5	EPA 8260B
17	Acrolein	107028	Aquatic Toxicity	21	2	EPA 8260B
18	Acrylonitrile	107131	National Toxics Rule	0.059	2	EPA 8260B
19	Benzene	71432	Primary MCL	1	0.5	EPA 8260B
20	Bromoform	75252	Calif. Toxics Rule	4.3	0.5	EPA 8260B
34	Bromomethane	74839	Calif. Toxics Rule	48	1	EPA 8260B
21	Carbon tetrachloride	56235	National Toxics Rule	0.25	0.5	EPA 8260B
22	Chlorobenzene (mono chlorobenzene)	108907	Taste & Odor	50	0.5	EPA 8260B
24	Chloroethane	75003	Taste & Odor	16	0.5	EPA 8260B
25	2- Chloroethyl vinyl ether	110758	Aquatic Toxicity	122 (3)	1	EPA 8260B
26	Chloroform	67663	OEHHA Cancer Risk	1.1	0.5	EPA 8260B
35	Chloromethane	74873	USEPA Health Advisory	3	0.5	EPA 8260B
23	Chlorodibromomethane	124481	Calif. Toxics Rule	0.41	0.5	EPA 8260B
27	Dichlorobromomethane	75274	Calif. Toxics Rule	0.56	0.5	EPA 8260B
36	Dichloromethane	75092	Calif. Toxics Rule	4.7	0.5	EPA 8260B
33	Ethylbenzene	100414	Taste & Odor	29	0.5	EPA 8260B
88	Hexachlorobenzene	118741	Calif. Toxics Rule	0.00075	1	EPA 8260B
89	Hexachlorobutadiene	87683	National Toxics Rule	0.44	1	EPA 8260B
91	Hexachloroethane	67721	National Toxics Rule	1.9	1	EPA 8260B
94	Naphthalene	91203	USEPA IRIS	14	10	EPA 8260B
38	Tetrachloroethene	127184	National Toxics Rule	0.8	0.5	EPA 8260B
39	Toluene	108883	Taste & Odor	42	0.5	EPA 8260B
40	trans-1,2-Dichloroethylene	156605	Primary MCL	10	0.5	EPA 8260B

TENTATIVE DRAFT

CTR #	Constituent	CAS Number	Controlling Water Quality Criterion for Surface Waters		Criterion Quantitation Limit ug/L or noted	Suggested Test Methods
			Basis	Criterion Concentration ug/L or noted[1]		
43	Trichloroethene	79016	National Toxics Rule	2.7	0.5	EPA 8260B
44	Vinyl chloride	75014	Primary MCL	0.5	0.5	EPA 8260B
	Methyl-tert-butyl ether (MTBE)	1634044	Secondary MCL	5	0.5	EPA 8260B
	Trichlorofluoromethane	75694	Primary MCL	150	5	EPA 8260B
	1,1,2-Trichloro-1,2,2-Trifluoroethane	76131	Primary MCL	1200	10	EPA 8260B
	Styrene	100425	Taste & Odor	11	0.5	EPA 8260B
	Xylenes	1330207	Taste & Odor	17	0.5	EPA 8260B
SEMI-VOLATILE ORGANICS						
60	1,2-Benzanthracene	56553	Calif. Toxics Rule	0.0044	5	EPA 8270C
85	1,2-Diphenylhydrazine	122667	National Toxics Rule	0.04	1	EPA 8270C
45	2-Chlorophenol	95578	Taste and Odor	0.1	2	EPA 8270C
46	2,4-Dichlorophenol	120832	Taste and Odor	0.3	1	EPA 8270C
47	2,4-Dimethylphenol	105679	Calif. Toxics Rule	540	2	EPA 8270C
49	2,4-Dinitrophenol	51285	National Toxics Rule	70	5	EPA 8270C
82	2,4-Dinitrotoluene	121142	National Toxics Rule	0.11	5	EPA 8270C
55	2,4,6-Trichlorophenol	88062	Taste and Odor	2	10	EPA 8270C
83	2,6-Dinitrotoluene	606202	USEPA IRIS	0.05	5	EPA 8270C
50	2-Nitrophenol	25154557	Aquatic Toxicity	150 (5)	10	EPA 8270C
71	2-Chloronaphthalene	91587	Aquatic Toxicity	1600 (6)	10	EPA 8270C
78	3,3'-Dichlorobenzidine	91941	National Toxics Rule	0.04	5	EPA 8270C
62	3,4-Benzofluoranthene	205992	Calif. Toxics Rule	0.0044	10	EPA 8270C
52	4-Chloro-3-methylphenol	59507	Aquatic Toxicity	30	5	EPA 8270C
48	4,6-Dinitro-2-methylphenol	534521	National Toxics Rule	13.4	10	EPA 8270C
51	4-Nitrophenol	100027	USEPA Health Advisory	60	5	EPA 8270C
69	4-Bromophenyl phenyl ether	101553	Aquatic Toxicity	122	10	EPA 8270C
72	4-Chlorophenyl phenyl ether	7005723	Aquatic Toxicity	122 (3)	5	EPA 8270C
56	Acenaphthene	83329	Taste and Odor	20	1	EPA 8270C
57	Acenaphthylene	208968	No Criteria Available		10	EPA 8270C
58	Anthracene	120127	Calif. Toxics Rule	9,600	10	EPA 8270C
59	Benzidine	92875	National Toxics Rule	0.00012	5	EPA 8270C
61	Benzo(a)pyrene (3,4-Benzopyrene)	50328	Calif. Toxics Rule	0.0044	0.1	EPA 8270C
63	Benzo(g,h,i)perylene	191242	No Criteria Available		5	EPA 8270C
64	Benzo(k)fluoranthene	207089	Calif. Toxics Rule	0.0044	2	EPA 8270C
65	Bis(2-chloroethoxy) methane	111911	No Criteria Available		5	EPA 8270C
66	Bis(2-chloroethyl) ether	111444	National Toxics Rule	0.031	1	EPA 8270C
67	Bis(2-chloroisopropyl) ether	39638329	Aquatic Toxicity	122 (3)	10	EPA 8270C

TENTATIVE DRAFT

CTR #	Constituent	CAS Number	Controlling Water Quality Criterion for Surface Waters		Criterion Quantitation Limit ug/L or noted	Suggested Test Methods
			Basis	Criterion Concentration ug/L or noted[1]		
68	Bis(2-ethylhexyl) phthalate	117817	National Toxics Rule	1.8	3	EPA 8270C
70	Butyl benzyl phthalate	85687	Aquatic Toxicity	3 (7)	10	EPA 8270C
73	Chrysene	218019	Calif. Toxics Rule	0.0044	5	EPA 8270C
81	Di-n-butylphthalate	84742	Aquatic Toxicity	3 (7)	10	EPA 8270C
84	Di-n-octylphthalate	117840	Aquatic Toxicity	3 (7)	10	EPA 8270C
74	Dibenzo(a,h)-anthracene	53703	Calif. Toxics Rule	0.0044	0.1	EPA 8270C
79	Diethyl phthalate	84662	Aquatic Toxicity	3 (7)	2	EPA 8270C
80	Dimethyl phthalate	131113	Aquatic Toxicity	3 (7)	2	EPA 8270C
86	Fluoranthene	206440	Calif. Toxics Rule	300	10	EPA 8270C
87	Fluorene	86737	Calif. Toxics Rule	1300	10	EPA 8270C
90	Hexachlorocyclopentadiene	77474	Taste and Odor	1	1	EPA 8270C
92	Indeno(1,2,3-c,d)pyrene	193395	Calif. Toxics Rule	0.0044	0.05	EPA 8270C
93	Isophorone	78591	National Toxics Rule	8.4	1	EPA 8270C
98	N-Nitrosodiphenylamine	86306	National Toxics Rule	5	1	EPA 8270C
96	N-Nitrosodimethylamine	62759	National Toxics Rule	0.00069	5	EPA 8270C
97	N-Nitrosodi-n-propylamine	621647	Calif. Toxics Rule	0.005	5	EPA 8270C
95	Nitrobenzene	98953	National Toxics Rule	17	10	EPA 8270C
53	Pentachlorophenol	87865	Calif. Toxics Rule	0.28	0.2	EPA 8270C
99	Phenanthrene	85018	No Criteria Available		5	EPA 8270C
54	Phenol	108952	Taste and Odor	5	1	EPA 8270C
100	Pyrene	129000	Calif. Toxics Rule	960	10	EPA 8270C
INORGANICS						
	Aluminum	7429905	Ambient Water Quality	87	50	EPA 6020/200.8
1	Antimony	7440360	Primary MCL	6	5	EPA 6020/200.8
2	Arsenic	7440382	Ambient Water Quality	0.018	0.01	EPA 1632
15	Asbestos	1332214	National Toxics Rule/ Primary MCL	7 MFL	0.2 MFL >10um	EPA/600/R-93/116(PCM)
	Barium	7440393	Basin Plan Objective	100	100	EPA 6020/200.8
3	Beryllium	7440417	Primary MCL	4	1	EPA 6020/200.8
4	Cadmium	7440439	Public Health Goal	0.07	0.25	EPA 1638/200.8
5a	Chromium (total)	7440473	Primary MCL	50	2	EPA 6020/200.8
5b	Chromium (VI)	18540299	Public Health Goal	0.2	0.5	EPA 7199/1636
6	Copper	7440508	National Toxics Rule	4.1 (2)	0.5	EPA 6020/200.8
14	Cyanide	57125	National Toxics Rule	5.2	5	EPA 9012A
	Fluoride	7782414	Public Health Goal	1000	0.1	EPA 300
	Iron	7439896	Secondary MCL	300	100	EPA 6020/200.8
7	Lead	7439921	Calif. Toxics Rule	0.92 (2)	0.5	EPA 1638
8	Mercury	7439976	TMDL Development		0.0002 (11)	EPA 1669/1631

TENTATIVE DRAFT

CTR #	Constituent	CAS Number	Controlling Water Quality Criterion for Surface Waters		Criterion Quantitation Limit ug/L or noted	Suggested Test Methods
			Basis	Criterion Concentration ug/L or noted[1]		
	Manganese	7439965	Secondary MCL/ Basin Plan Objective	50	20	EPA 6020/200.8
9	Nickel	7440020	Calif. Toxics Rule	24 (2)	5	EPA 6020/200.8
10	Selenium	7782492	Calif. Toxics Rule	5 (8)	5	EPA 6020/200.8
11	Silver	7440224	Calif. Toxics Rule	0.71 (2)	1	EPA 6020/200.8
12	Thallium	7440280	National Toxics Rule	1.7	1	EPA 6020/200.8
	Tributyltin	688733	Ambient Water Quality	0.063	0.002	EV-024/025
13	Zinc	7440666	Calif. Toxics Rule/ Basin Plan Objective	54/ 16 (2)	10	EPA 6020/200.8
PESTICIDES - PCBs						
110	4,4'-DDD	72548	Calif. Toxics Rule	0.00083	0.02	EPA 8081A
109	4,4'-DDE	72559	Calif. Toxics Rule	0.00059	0.01	EPA 8081A
108	4,4'-DDT	50293	Calif. Toxics Rule	0.00059	0.01	EPA 8081A
112	alpha-Endosulfan	959988	National Toxics Rule	0.056 (9)	0.02	EPA 8081A
103	alpha-Hexachlorocyclohexane (BHC)	319846	Calif. Toxics Rule	0.0039	0.01	EPA 8081A
	Alachlor	15972608	Primary MCL	2	1	EPA 8081A
102	Aldrin	309002	Calif. Toxics Rule	0.00013	0.005	EPA 8081A
113	beta-Endosulfan	33213659	Calif. Toxics Rule	0.056 (9)	0.01	EPA 8081A
104	beta-Hexachlorocyclohexane	319857	Calif. Toxics Rule	0.014	0.005	EPA 8081A
107	Chlordane	57749	Calif. Toxics Rule	0.00057	0.1	EPA 8081A
106	delta-Hexachlorocyclohexane	319868	No Criteria Available		0.005	EPA 8081A
111	Dieldrin	60571	Calif. Toxics Rule	0.00014	0.01	EPA 8081A
114	Endosulfan sulfate	1031078	Ambient Water Quality	0.056	0.05	EPA 8081A
115	Endrin	72208	Calif. Toxics Rule	0.036	0.01	EPA 8081A
116	Endrin Aldehyde	7421934	Calif. Toxics Rule	0.76	0.01	EPA 8081A
117	Heptachlor	76448	Calif. Toxics Rule	0.00021	0.01	EPA 8081A
118	Heptachlor Epoxide	1024573	Calif. Toxics Rule	0.0001	0.01	EPA 8081A
105	Lindane (gamma-Hexachlorocyclohexane)	58899	Calif. Toxics Rule	0.019	0.019	EPA 8081A
119	PCB-1016	12674112	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
120	PCB-1221	11104282	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
121	PCB-1232	11141165	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
122	PCB-1242	53469219	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
123	PCB-1248	12672296	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
124	PCB-1254	11097691	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
125	PCB-1260	11096825	Calif. Toxics Rule	0.00017 (10)	0.5	EPA 8082
126	Toxaphene	8001352	Calif. Toxics Rule	0.0002	0.5	EPA 8081A
	Atrazine	1912249	Public Health Goal	0.15	1	EPA 8141A

TENTATIVE DRAFT

CTR #	Constituent	CAS Number	Controlling Water Quality Criterion for Surface Waters		Criterion Quantitation Limit ug/L or noted	Suggested Test Methods
			Basis	Criterion Concentration ug/L or noted[1]		
	Bentazon	25057890	Primary MCL	18	2	EPA 643/ 515.2
	Carbofuran	1563662	CDFG Hazard Assess.	0.5	5	EPA 8318
	2,4-D	94757	Primary MCL	70	10	EPA 8151A
	Dalapon	75990	Ambient Water Quality	110	10	EPA 8151A
	1,2-Dibromo-3-chloropropane (DBCP)	96128	Public Health Goal	0.0017	0.01	EPA 8260B
	Di(2-ethylhexyl)adipate	103231	USEPA IRIS	30	5	EPA 8270C
	Dinoseb	88857	Primary MCL	7	2	EPA 8151A
	Diquat	85007	Ambient Water Quality	0.5	4	EPA 8340/ 549.1/HPLC
	Endothal	145733	Primary MCL	100	45	EPA 548.1
	Ethylene Dibromide	106934	OEHHA Cancer Risk	0.0097	0.02	EPA 8260B/504
	Glyphosate	1071836	Primary MCL	700	25	HPLC/EPA 547
	Methoxychlor	72435	Public Health Goal	30	10	EPA 8081A
	Molinate (Ordram)	2212671	CDFG Hazard Assess.	13	2	EPA 634
	Oxamyl	23135220	Public Health Goal	50	20	EPA 8318/632
	Picloram	1918021	Primary MCL	500	1	EPA 8151A
	Simazine (Princep)	122349	USEPA IRIS	3.4	1	EPA 8141A
	Thiobencarb	28249776	Basin Plan Objective/ Secondary MCL	1	1	HPLC/EPA 639
16	2,3,7,8-TCDD (Dioxin)	1746016	Calif. Toxics Rule	1.30E-08	5.00E-06	EPA 8290 (HRGC) MS
	2,4,5-TP (Silvex)	93765	Ambient Water Quality	10	1	EPA 8151A
	Diazinon	333415	CDFG Hazard Assess.	0.05	0.25	EPA 8141A/GCMS
	Chlorpyrifos	2921882	CDFG Hazard Assess.	0.014	1	EPA 8141A/GCMS
OTHER CONSTITUENTS						
	Ammonia (as N)	7664417	Ambient Water Quality	1500 (4)		EPA 350.1
	Chloride	16887006	Agricultural Use	106,000		EPA 300.0
	Flow			1 CFS		
	Hardness (as $CaCO_3$)			5000		EPA 130.2
	Foaming Agents (MBAS)		Secondary MCL	500		SM5540C
	Nitrate (as N)	14797558	Primary MCL	10,000	2,000	EPA 300.0
	Nitrite (as N)	14797650	Primary MCL	1000	400	EPA 300.0
	pH		Basin Plan Objective	6.5-8.5	0.1	EPA 150.1
	Phosphorus, Total (as P)	7723140	USEPA IRIS	0.14		EPA 365.3
	Specific conductance (EC)		Agricultural Use	700 umhos/cm		EPA 120.1
	Sulfate		Secondary MCL	250,000	500	EPA 300.0
	Sulfide (as S)		Taste and Odor	0.029		EPA 376.2
	Sulfite (as SO_3)		No Criteria Available			SM4500-SO3

TENTATIVE DRAFT

CTR #	Constituent	CAS Number	Controlling Water Quality Criterion for Surface Waters		Criterion Quantitation Limit ug/L or noted	Suggested Test Methods
			Basis	Criterion Concentration ug/L or noted[1]		
	Temperature		Basin Plan Objective	^{o}F		
	Total Disolved Solids (TDS)		Agricultural Use	450,000		EPA 160.1

FOOTNOTES:

(1) - The Criterion Concentrations serve only as a point of reference for the selection of the appropriate analytical method. They do not indicate a regulatory decision that the cited concentration is either necessary or sufficient for full protection of beneficial uses. Available technology may require that effluent limits be set lower than these values.

(2) - Freshwater aquatic life criteria for metals are expressed as a function of total hardness (mg/L) in the water body. Values displayed correspond to a total hardness of 40 mg/L.

(3) - For haloethers

(4) - Freshwater aquatic life criteria for ammonia are expressed as a function of pH and temperature of the water body. Values displayed correspond to pH 8.0 and temperature of 22 C.

(5) - For nitrophenols.

(6) - For chlorinated naphthalenes.

(7) - For phthalate esters.

(8) - Basin Plan objective = 2 ug/L for Salt Slough and specific constructed channels in the Grassland watershed.

(9) - Criteria for sum of alpha- and beta- forms.

(10) - Criteria for sum of all PCBs.

(11) - Mercury monitoring shall utilize "ultra-clean" sampling and analytical methods. These methods include:

Method 1669: Sampling Ambient Water for Trace Metals at USEPA Water Quality Criteria Levels, USEPA; and

Method 1631: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluoresence, US EPA

III. Additional Study Requirements

A. Laboratory Requirements. The laboratory analyzing the monitoring samples shall be certified by the Department of Health Services in accordance with the provisions of Water Code 13176 and must include quality assurance/quality control data with their reports (ELAP certified).

B. Criterion Quantitation Limit (CQL). The criterion quantitation limits will be equal to or lower than the minimum levels (MLs) in Appendix 4 of the SIP or the detection limits for purposes of reporting (DLRs) below the controlling water quality criterion concentrations summarized in Table H-1 of this Order. In cases where the controlling water quality criteria concentrations are below the detection limits of all approved analytical methods, the best available procedure will be utilized that meets the lowest of the MLs and DLR. Table H-1 contains suggested analytical procedures. The Discharger is not required to use these specific procedures as long as the procedure selected achieves the desired minimum detection level.

C. Method Detection Limit (MDL). The method detection limit for the laboratory shall be determined by the procedure found in 40 CFR Part 136, Appendix B (revised as of May 14, 1999).

TENTATIVE DRAFT

D. Reporting Limit (RL). The reporting limit for the laboratory. This is the lowest quantifiable concentration that the laboratory can determine. Ideally, the RL should be equal to or lower than the CQL to meet the purposes of this monitoring.

E. Reporting Protocols. The results of analytical determinations for the presence of chemical constituents in a sample shall use the following reporting protocols:

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

2. Sample results less than the reported 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.

3. 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 shortened to "Est. Conc.). The laboratory, if such information is available, may include numerical estimates of the data quantity for the reported result. Numerical estimates of data quality may be percent accuracy (+ or – a percentage of the reported value), numerical ranges (low and high), or any other means considered appropriate by the laboratory.

4. Sample results that are less than the laboratory's MDL shall be reported as "Not Detected" or ND.

TENTATIVE DRAFT

F. Data Format. The monitoring report shall contain the following information for each pollutant:

1. The name of the constituent.
2. Sampling location.
3. The date the sample was collected.
4. The time the sample was collected.
5. The date the sample was analyzed. For organic analyses, the extraction data will also be indicated to assure that hold times are not exceeded for prepared samples.
6. The analytical method utilized.
7. The measured or estimated concentration.
8. The required Criterion Quantitation Limit (CQL).
9. The laboratory's current Method Detection Limit (MDL), as determined by the procedure found in 40 CFR Part 136, Appendix B (revised as of May 14, 1999).
10. The laboratory's lowest reporting limit (RL).
11. Any additional comments.

TENTATIVE DRAFT

ATTACHMENT I – STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS

I. Implementation Schedule

A storm water pollution prevention plan (SWPPP) shall be developed and submitted to the Regional Water Board within 90 days following the adoption of this Order. The SWPPP shall be implemented for each facility covered by this Permit within 10 days of approval from the Regional Water Board, or 6-months from the date of the submittal of the SWPPP to the Regional Water Board (whichever comes first).

II. Objectives

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site- specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, over-head coverage.) To achieve these objectives, facility operators should consider the five phase process for SWPPP development and implementation as shown in Table A.

The SWPPP requirements are designed to be sufficiently flexible to meet the needs of various facilities. SWPPP requirements that are not applicable to a facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

III. Planning and Organization

A. Pollution Prevention Team

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in Attachment E of this Permit. The SWPPP shall clearly identify the Permit related responsibilities, duties, and activities of each team member. For small facilities, storm water pollution prevention teams may consist of one individual where appropriate.

TENTATIVE DRAFT

B. Review Other Requirements and Existing Facility Plans

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. Facility operators should review all local, State, and Federal requirements that impact, complement, or are consistent with the requirements of this General Permit. Facility operators should identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of this Permit. As examples, facility operators whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly, facility operators whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

IV. Site Map

The SWPPP shall include a site map. The site map shall be provided on an 8-½ x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, facility operators may provide the required information on multiple site maps.

TENTATIVE DRAFT

TABLE A
FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL STORM WATER POLLUTION PREVENTION PLANS

PLANNING AND ORGANIZATION
Form Pollution Prevention Team Review other plans

ASSESSMENT PHASE
Develop a site map Identify potential pollutant sources Inventory of materials and chemicals List significant spills and leaks Identify non-storm water discharges Assess pollutant risks

BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE
Non-structural BMPs Structural BMPs Select activity and site-specific BMPs

IMPLEMENTATION PHASE
Train employees Implement BMPs Conduct recordkeeping and reporting

EVALUATION / MONITORING
Conduct annual site evaluation Review monitoring information Evaluate BMPs Review and revise SWPPP

TENTATIVE DRAFT

The following information shall be included on the site map:

A. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, and ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.

B. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

C. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.

D. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in Section A.6.a.iv. below have occurred.

E. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

TENTATIVE DRAFT

V. List of Significant Materials

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

VI. Description of Potential Pollutant Sources

A. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in Section IV.E above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

1. Industrial Processes

   Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the manufacturing, cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

2. Material Handling and Storage Areas

   Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

3. Dust and Particulate Generating Activities

   Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.

4. Significant Spills and Leaks

   Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges since 17 April 1994. Include toxic chemicals (listed in 40 CFR Part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (USEPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 CFR Parts 110, 117, and 302).

   The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spill or leaks do not reoccur. Such list shall be updated as appropriate during the term of this Permit.

TENTATIVE DRAFT

5. Non-Storm Water Discharges

   Facility operators shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

   All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the non-storm water discharges and associated drainage area.

   Non-storm water discharges that contain significant quantities of pollutants or that do not meet the conditions provided in Special Conditions D of the storm water general permit are prohibited by this Order (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, rinse water, wash water, etc.). Non-storm water discharges that meet the conditions provided in Special Condition D of the general storm water permit are authorized by this Permit. The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

6. Soil Erosion

   Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.

B. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B. The last column of Table B, "Control Practices", should be completed in accordance with Section VIII below.

VII. Assessment of Potential Pollutant Sources

1. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in VI above to determine:

   a. Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and

   b. Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. Facility operators shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.

TENTATIVE DRAFT

2. Facility operators shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

   Facility operators are required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section VIII below.

VIII. Storm Water Best Management Practices

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (Sections VI and VII above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

TENTATIVE DRAFT

TABLE B
EXAMPLE

ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND CORRESPONDING BEST MANAGEMENT PRACTICES SUMMARY

Area	**Activity**	**Pollutant Source**	**Pollutant**	**Best Management Practices**
Vehicle & Equipment Fueling	Fueling	Spills and leaks during delivery. Spills caused by topping off fuel tanks. Hosing or washing down fuel oil fuel area. Leaking storage tanks. Rainfall running off fuel oil, and rainfall running onto and off fueling area.	fuel oil	Use spill and overflow protection. Minimize run-on of storm water into the fueling area. Cover fueling area. Use dry cleanup methods rather than hosing down area. Implement proper spill prevention control program. Implement adequate preventative maintenance program to preventive tank and line leaks. Inspect fueling areas regularly to detect problems before they occur. Train employees on proper fueling, cleanup, and spill response techniques.

TENTATIVE DRAFT

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

Facility operators shall consider the following BMPs for implementation at the facility:

A. Non-Structural BMPs

Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. Facility operators should consider all possible non-structural BMPs options before considering additional

structural BMPs (see Section VIII.B below). Below is a list of non-structural BMPs that should be considered:

1. Good Housekeeping

   Good housekeeping generally consists of practical procedures to maintain a clean and orderly facility.

2. Preventive Maintenance

   Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.

3. Spill Response

   This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.

4. Material Handling and Storage

   This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.

5. Employee Training

   This includes training of personnel who are responsible for (1) implementing activities identified in the SWPPP, (2) conducting inspections, sampling, and visual observations, and (3) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.

6. Waste Handling/Recycling

   This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.

7. Recordkeeping and Internal Reporting

   This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.

TENTATIVE DRAFT

8. Erosion Control and Site Stabilization

   This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.

9. Inspections

   This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.

10. Quality Assurance

    This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

B. Structural BMPs

Where non-structural BMPs as identified in Section VIII.A above are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

1. Overhead Coverage

   This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.

2. Retention Ponds

   This includes basins, ponds, surface impoundments, bermed areas, etc. that do not allow storm water to discharge from the facility.

3. Control Devices

   This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.

4. Secondary Containment Structures

   This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.

TENTATIVE DRAFT

5. Treatment

   This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc. that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

TENTATIVE DRAFT

IX. Annual Comprehensive Site Compliance Evaluation

The facility operator shall conduct one comprehensive site compliance evaluation (evaluation) in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

A. A review of all visual observation records, inspection records, and sampling and analysis results.

B. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.

C. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.

D. An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary SWPPP revisions, (iv) schedule, as required in Section X.E, for implementing SWPPP revisions, (v) any incidents of non-compliance and the corrective actions taken, and (vi) a certification that the facility operator is in compliance with this Permit. If the above certification cannot be provided, explain in the evaluation report why the facility operator is not in compliance with this General Permit. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Standard Provisions V.D.5 of Attachment D.

X. SWPPP General Requirements

A. The SWPPP shall be retained on site and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.

B. The Regional Water Board and/or local agency may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements of this Section. As requested by the Regional Water Board and/or local agency, the facility operator shall submit an SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required

SWPPP revisions, the facility operator shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.

C. The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an industrial activity which would introduce a new pollutant source at the facility.

D. The SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a facility operator determines that the SWPPP is in violation of any requirement(s) of this Permit.

E. When any part of the SWPPP is infeasible to implement due to proposed significant structural changes, the facility operator shall submit a report to the Regional Water Board prior to the applicable deadline that (i) describes the portion of the SWPPP that is infeasible to implement by the deadline, (ii) provides justification for a time extension, (iii) provides a schedule for completing and implementing that portion of the SWPPP, and (iv) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. Facility operators shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.

F. The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under Section 308(b) of the Clean Water Act.

TENTATIVE DRAFT