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. R5-2010-XXXX
NPDES NO. CA0079111

WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF SACRAMENTO COMBINED WASTEWATER COLLECTION AND TREATMENT SYSTEM SACRAMENTO COUNTY

TENTATIVE ORDER

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

Table 1. Discharger Information

Discharger	City of Sacramento
Name of Facility	Combined Wastewater Collection and Treatment System
Facility Address	1395 35th Avenue
	Sacramento, CA 95822
	Sacramento County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a **major** discharge.	

The discharge by the City of Sacramento 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
002	Combined Municipal and Industrial Wastewater and Stormwater	38º 31.164' N	121º 31.440' W	Sacramento River
003	Combined Municipal and Industrial Wastewater and Stormwater	38º 31.397' N	121º 31.424' W	Sacramento River
004	Combined Municipal and Industrial Wastewater and Stormwater	38º 32.869' N	121º 30.622' W	Sacramento River
005	Combined Municipal and Industrial Wastewater and Stormwater	38º 32.864' N	121º 30.623' W	Sacramento River
006	Combined Municipal and Industrial Wastewater and Stormwater	38º 34.308' N	121º 30.800' W	Sacramento River
007	Combined Municipal and Industrial Wastewater and Stormwater	38º 34.322' N	121º 30.786' W	Sacramento River

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 Order expiration date**

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

_____
Pamela C. Creedon, Executive Officer

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I. FACILITY INFORMATION

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

Table 4. Facility Information

Discharger	City of Sacramento
Name of Facility	Combined Wastewater Collection and Treatment System
Facility Address	1395 35th Avenue
	Sacramento, CA 95822
	Sacramento County
Facility Contact, Title, and Phone	Marty Hanneman, Director, (916) 808-7508
Mailing Address	Same as Facility Address
Type of Facility	Combined sewer collection and treatment system
Facility Design Flow	380 million gallons per day (treated flow)

II. FINDINGS

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

A. Background. The City of Sacramento (hereinafter Discharger) is currently discharging pursuant to Order No. 5-01-258 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0079111. The Discharger submitted a Report of Waste Discharge, dated 2 June 2006**,** and applied for a NPDES permit renewal to discharge up to 380 million gallons per day (mgd) of treated wastewater from a combined wastewater collection and treatment system**,** hereinafter 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. Facility Description. The Discharger owns and operates a combined wastewater collection and treatment system for portions of the City of Sacramento. The Facility consists of four main complexes to manage the collected combined sewage: Sumps 1/1A, Sumps 2/2A, the Pioneer Reservoir Treatment Plant, and the Combined Wastewater Treatment Plant (CWTP). The combined sewer system (CSS) conveys domestic and industrial wastewater and storm runoff to Sumps 1/1A and Sumps 2/2A, where up to 60 mgd flows are pumped via the Regional Force Main to the Sacramento Regional County Sanitation District's regional wastewater treatment plant (SRWTP) for secondary treatment prior to discharge to the Sacramento River. When flow to Sumps 2/2A exceeds 60 mgd, flows are automatically routed through the Pioneer Interceptor to available storage in the Pioneer Reservoir (23 million gallons of storage capacity in the reservoir itself and 5 million gallons of storage capacity in the Pioneer Interceptor). After available storage in the Pioneer Reservoir is filled flows are routed to the CWTP to

maximize available storage, before flows continue to be sent to the Pioneer Reservoir treatment facility for treatment.

The Pioneer Reservoir provides primary treatment and disinfection to up to 250 mgd. After the wastewater is dechlorination, it is discharged to the Sacramento River at Discharge Point No. 006 and/or sent via the CWTP Force Main to the CWTP, where an additional 130 mgd of combined wastewater receives primary treatment and disinfection prior to discharge to the Sacramento River at Discharge Point Nos. 002 or 003. The CWTP basins are also used for storage of up to 9.2 million gallons (including the CWTP Interceptor) of flow and diversion of flows back to the SRWTP.

During major storms, Sumps 1/1A pumps up to 200 mgd to Pioneer Reservoir. As flows to Sumps 1/1A and Sumps 2/2A increase, flows above 250 mgd are routed through Pioneer Reservoir for at least partial primary treatment. During extreme high flow conditions, discharges of untreated combined wastewater may occur at Sumps 2/2A through Discharge Point Nos. 004 and 005 and at the Sump A bypass at Discharge Point No. 007. Each of the six permitted combined sewer overflow (CSO) Discharge Points (Nos. 002 through 007) discharge directly to the Sacramento River, a water of the United States, within the Sacramento-San Joaquin River Basins Watershed. Attachment B provides a location map of the six CSO discharge locations. Attachment C provides a flow schematic of the Facility.

C. Legal Authorities. This Order is issued pursuant to section 402 of the Clean Water Act (CWA) and implementing regulations adopted by USEPA and chapter 5.5, division 7 of the California Water Code (CWC; 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 CWC (commencing with section 13260).

On 11 April 1994, USEPA adopted the Combined Sewer Overflow (CSO) Control Policy (59 FR 18688-18698). The CSO Control Policy was recently incorporated into the federal CWA by the Wet Weather Water Quality Act of 2000 [House Resolution (H.R.) 828] which is part of H.R. 4577, an omnibus funding bill. The CWA at Section 402(q)(1) now states: "…*Each permit…pursuant to this Act…for a discharge from a municipal combined storm and sanitary sewer shall conform to the CSO Control Policy*…" The CSO policy establishes a consistent national approach for controlling discharges from CSOs to the nation's water through the NPDES permit program. CSOs are defined as the discharge from the combined sewer system at a point prior to the publicly owned treatment works (POTW) treatment plant (see Federal Register, Vol. 59 No. 75, Tuesday, 19 April 1994, Section I.A.). This Order implements the USEPA CSO Control Policy.

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 H are also incorporated into this Order.

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E. California Environmental Quality Act (CEQA). Under CWC 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 section 122.44, title 40 of the Code of Federal Regulations (40 CFR 122.44), require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with 40 CFR 125.3.

According to the CSO Control Policy, a permittee is required to implement nine minimum controls (NMCs) which constitute the technology-based requirements of the CWA as applied to combined sewer facilities: best practicable control technology currently available (BPT), best conventional pollutant control technology, (BCT), and best available technology economically achievable, (BAT) based on BPJ. These NMCs are intended to prevent CSOs and reduce their effects on receiving water quality. A detailed discussion of the technology-based requirements included in this Order is provided 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.

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).

According to the CSO Control Policy, a permittee is required to develop and implement a long-term CSO control plan which evaluates alternatives for attaining compliance with the CWA, including compliance with applicable water quality standards and protection of designated uses. It further states that once long-term CSO control plans are completed, permittees are responsible for implementing the plan to ensure compliance with applicable water quality standards. A detailed discussion of the water quality-based requirements included in this Order is provided in the Fact Sheet (Attachment F).

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

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Joaquin River Basins (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, 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. Beneficial uses applicable to the Sacramento River are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
002, 003, 004, 005, 006, and 007	Sacramento River	Existing: Municipal and domestic supply (MUN); Agricultural supply, including stock watering (AGR); Industrial process (PROC) and service supply (IND); Water contact recreation (REC-1); Non-contact water recreation (REC-2); Warm freshwater aquatic habitat (WARM), Cold freshwater aquatic habitat (COLD); Warm migration, cold migration (MIGR); Warm spawning habitat(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*." The listing for the Sacramento River (Delta Waterways - northern portion) includes: chlorpyrifos, DDT, diazinon, exotic species, Group A pesticides, mercury, PCBs (Polychlorinated biphenyls), and unknown toxicity. Of these pollutants, only chlorpyrifos and diazinon are listed based on urban runoff/storm sewer sources.

The State Water Board adopted the *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 implement the Thermal 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 Sacramento –

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San Joaquin Delta. 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.

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 40 criteria in the NTR applied in California. On 18 May 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain water quality criteria for priority pollutants.

J. **State Implementation Policy.** On 2 March 2000, the State Water 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 28 2000 with respect to the priority pollutant criteria promulgated for California by USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on 18 May 2000 with respect to the priority pollutant criteria promulgated by USEPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005 that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control.

The SIP states that it "…*does not apply to discharges of toxic pollutants from combined sewer overflow. These discharges will continue to be regulated in accordance with the federal "Combined Sewer Overflow (CSO) Control Policy," published April 19, 1994 (59 FR 18688-18698).*"

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

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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 USEPA 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 CWC section 13300 or a Cease and Desist Order pursuant to CWC 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.

This Order does not include compliance schedules and interim effluent limitations or discharge specifications.

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

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based effluent limitations for individual pollutants and water quality-based requirements. The technology-based effluent limitations consist of restrictions on total suspended solids. The water quality-based requirements consist of restrictions on a number of parameters and application of the CSO Control Policy. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

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 water quality-based requirements contained in the CSO Control Policy.

N. Antidegradation Policy. 40 CFR 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The 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 Resolution No. 68-16.

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O. Anti-Backsliding Requirements. Section 303(d)(4) and sections 402(o)(2)(A) and (B)(i) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions. All effluent limitations in this Order are at least as stringent as the effluent limitations in Order No. 5-01-258. The establishment of less stringent, or removal of, water quality based effluent limitations based on newly available information, is allowed under Sections 303(d)(4), and 402(o)(2)(A) and (B)(i) of the CWA. The establishment of less stringent, or removal of, technology based effluent limitations based on a facility upgrade is allowed under 40 CFR 122.44(l)(2)(i)(A).

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

Q. Monitoring and Reporting. 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize 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. The Monitoring and Reporting Program is provided in Attachment E.

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

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

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

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

THEREFORE, IT IS HEREBY ORDERED, that Order No. 5-01-258 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 CWC (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

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III. DISCHARGE PROHIBITIONS

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

B. The by-pass of, or overflow from, the CSS to surface waters is prohibited, except as allowed by federal Standard Provisions I.G. and I.H. (Attachment D). The exception to this Discharge Prohibition is discharges from Discharge Point Nos. 002, 003, 004, 005, 006, and 007 in accordance with Discharge Prohibitions III.D and III.E below.

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

D. The discharge to the Sacramento River is prohibited at the following discharge points unless the following specified conditions are met, or authorization has been granted[1]:

1. Sump 2 Bypass (Discharge Point Nos. 004 and 005), and Sump 1A Bypass (Discharge Point No. 007). The storage capacity of the Pioneer Reservoir (28 million gallons, including the Pioneer Interceptor) and the CWTP (9.2 million gallons including the CWTP Interceptor) must be reached prior to discharge.

2. Pioneer Reservoir (Discharge Point No. 006). No discharge in excess of 250 mgd unless available storage at the 130 mgd CWTP has been maximized.

E. Other than as a result of wet weather, or as approved by the Executive Officer[1], discharges from Discharge Point Nos. 002, 003, 004, 005, 006, and 007 to surface waters or surface water drainage courses is prohibited.

[1] The Discharger must obtain prior written approval from the Executive Officer to discharge from the CWTP, Pioneer Reservoir, or the CSS for maintenance or equipment testing, when the discharges would not be required by wet weather conditions.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point Nos. 002 (CWTP), 003 (CWTP Sump 104), and 006 (Pioneer Reservoir)

1. Final Effluent Limitations – Discharge Point Nos. 002, 003, and 006

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point Nos. 002, 003, and 006, with compliance measured at Monitoring Locations EFF-002, EFF-003, and EFF-006, respectively, as described in the Monitoring and Reporting Program:

Table 6. Effluent Limitations

Constituent	Units	Storm Year[1] Average	Storm Maximum	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids	mg/L	100[2,3]	--	--	--
Settleable Solids	ml/L	--	1.0[3]	--	--
Chlorine Residual	mg/L	--	0.019	--	--
pH	standard units	--	--	6.5	8.5

[1] A storm year is defined as 1 October through 30 September
[2] In addition, two consecutive samples shall not exceed 150 mg/L
[3] Applicable to Discharge Point No. 006 (Pioneer Reservoir) for flows of 250 mgd or less and for all flows from Discharge Point Nos. 002 or 003.

b. The discharger shall eliminate or capture for treatment, or provide storage and subsequent treatment, at least 85 percent, by volume, of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis. Sewage captured for treatment shall receive treatment, at a minimum, to include primary clarification or equivalent, solids and floatables disposal, and disinfection.

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

d. Fecal Coliform Organisms. Effluent total coliform organisms shall not exceed:

i. 1,000 MPN/100 mL in any three consecutive samples; and

ii. 200 MPN/100 mL, as a storm year (1 October through 30 September) median.

2. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

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V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

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

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

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

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

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

5. **Dissolved Oxygen:**

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

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

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

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

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;

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d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR 131.12.);

e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;

f. Pesticides to be present in concentration in excess of the maximum contaminant levels set forth in CCR, 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. The natural temperature to be increased by more than 4°F.

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;

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

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

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

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

2. The Discharger shall comply with the following provisions:

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

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

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

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

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

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

The causes for modification include:

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

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

- *Change in sludge use or disposal practice.* Under 40 CFR 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for

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modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

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

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

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

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

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

ii. controls any pollutant limited in the Order.

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

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

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

g. 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.

h. Safeguard to electric power failure:

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

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ii. Upon written request by the 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.

i. 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 contained in section VI.A.2.h. of this Order.

The technical report shall:

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

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

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

The 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.

j. A publicly owned treatment works whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall

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be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the 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.

k. 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.

l. 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.

m. For publicly owned treatment works, prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a 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).

n. 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 the Standard Provision contained in Attachment D section V.E.1. [40 CFR 122.41(l)(6)(i)].

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

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violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

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

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

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B. Monitoring and Reporting Program Requirements

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

C. Special Provisions

1. Reopener Provisions

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

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.

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

c. **Mercury.** If a mercury or methylmercury TMDL is adopted, this Order shall be reopened to address TMDL requirements applicable to the Discharger. 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 reevaluate the interim mercury mass loading limitation(s) and the need for a mercury offset program for the Discharger.

d. **Compliance with State-Wide Sanitary Sewer System General Order.** If the State Water Board revises or reissues Order No. 2006-0003-DWQ, a Statewide General WDR for Sanitary Sewer Systems, this Order shall be reopened and revised to ensure consistency with any applicable provisions and/or requirements.

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

a. **CSS Water Quality Assessment.** The Discharger shall complete a water quality assessment to demonstrate compliance with applicable water quality based objectives for CSO discharges from the CSS, including protection of designated uses. The intent of the assessment is for the Discharger to determine if their Long-Term Control Plan (which is based on the USEPA CSO Control Policy's Presumption Approach) continues to achieve compliance with all applicable State water quality objectives and protects designated uses of the Sacramento River for remaining CSOs.

Within **90 days from the effective date** of this Order, the Discharger shall provide to the Regional Water Board for review and approval, a plan for conducting the water quality assessment, including proposed data, data sources, and methodology(ies) to be used for evaluating compliance. The water quality assessment plan shall describe the monitoring that will be conducted to collect data for use in the assessment, including 1) recommended pollutant parameters (including individual pollutants of concern, indicator pollutants, and other indicator tests such as whole effluent toxicity); 2) sampling locations; 3) sampling frequencies; and 4) analytical methods. Monitoring shall, at a minimum, include two full wet weather seasons. In developing the plan, the Discharger may propose coordinating data collection with the monitoring program required as part of the Discharger's municipal separate storm sewer system (MS4) program (as required in Order No. R5-2008-0142/NPDES Permit No. CAS082597).

The Discharger shall complete the water quality assessment and provide a report to the Regional Water Board by **no later than the end of the 3rd year** of the permit term. The CSO water quality assessment report shall, at a minimum, include the following components:

i. An analysis evaluating the potential impact of CSO discharges in relation to all applicable water quality objectives (including Basin Plan and CTR water quality objectives) and designated uses. If applicable water quality objectives cannot be achieved and designated uses cannot be adequately protected, then the Discharger shall also assess the need for coordination with the

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Regional Water Board for the review and revision of water quality objectives and implementation procedures to ensure that future CSS controls will be sufficient to meet water quality objectives.

ii. An evaluation of necessary updates and/or revisions to the Nine Minimum Controls and/or Long-Term Control Plan if the assessment indicates that applicable water quality objectives are exceeded or that designated uses are impaired. The Discharger shall also provide proposed time frames for implementation of any proposed CSS program updates and/or revisions.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation and Maintenance Specifications

In accordance with the USEPA CSO Control Policy's Nine Minimum Controls and the Discharger's Long-Term Control Plan, the Discharger must adhere to the following provisions to constitute compliance with the USEPA Combined Sewer Overflow Policy requirements for control of discharges from the Discharger's CSS.

a. Combined Wastewater Control System Plan of Operations. The Discharger shall revise and update as necessary their Combined Wastewater Control System Plan of Operations to ensure compliance with the Nine Minimum Controls and Long-Term Control Plan requirements specified in Sections VI.C.4.b and VI.C.4.c below. The Combined Wastewater Control System Plan of Operations shall specify the procedures to be used by the Discharger to manage the CSS. The Combined Wastewater Control System Plan of Operations shall clearly establish operation, maintenance, and inspection procedures to maximize the removal of pollutants during and after each precipitation event using all available facilities within the combined wastewater collection and treatment system, with the goal of achieving the maximum treatment possible and minimizing CSOs and CSS outflows.

The Discharger shall operate the combined wastewater collection and treatment system in conformance with the Combined Wastewater Control System Plan of Operations and shall report any variation from the Plan in the next monthly monitoring report as required in Attachment E (Section X.B). Any modifications to the Combined Wastewater Control System Plan of Operations must be submitted for review and approval by the Executive Officer before they may become effective.

b. Nine Minimum Controls and CSS Outflow Controls. The Discharger shall implement and comply with the following requirements:

i. Conduct Proper Operations and Regular Maintenance Programs. The Discharger shall revise as necessary the Combined Wastewater Control System Plan of Operations that will include the elements listed in this section. The Discharger shall update the Combined Wastewater Control System Plan of Operations to include any changes to the system, or operation and

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maintenance procedures. The Discharger shall keep records to document the implementation of the Combined Wastewater Control System Plan of Operations and submit such documentation in accordance with the requirements specified in the Monitoring and Reporting Program (Attachment E) of this order.

(a) Organizational Structure for the Combined Sewer System. The Combined Wastewater Control System Plan of Operations shall include an organizational structure (shown with an organizational chart or other documents) that provides the names and telephone numbers of key personnel, the chain of command, and the relationships among various program components (e.g., operations, maintenance). In addition, the organizational structure should establish clear lines of communication, authority, and responsibility.

The Discharger shall designate the key personnel responsible for the combined wastewater collection and treatment system. These key personnel shall serve as the contacts for the CSOs and CSS outflows from the combined wastewater collection and treatment system. The Discharger shall notify the Regional Water Board within 90 days of new key personnel and update the organizational structure as necessary.

(b) Inspection and Maintenance of the CSS. The Discharger shall:

(1) Describe in the Combined Wastewater Control System Plan of Operations, the combined wastewater collection and treatment system maintenance program to be implemented. The maintenance program shall list and address at a minimum, the most critical elements of the combined wastewater collection and treatment system. "Critical elements" are those facilities that affect the performance of the combined wastewater collection and treatment system, the number and extent of CSS outflows and CSOs, or CSS outflow and CSO pollutant levels. The list should include as appropriate, regulator structures, pumping stations, diversion structures, retention basins, sections of the CSS prone to sedimentation, all CSO discharge points, and the Pioneer Reservoir and CWTP primary treatment facilities. The list should include a physical description of each facility and its location.

At a minimum, the inspection and maintenance program shall include:

- A schedule for regular inspection and maintenance of all overflow structures, regulator, and pumping stations to ensure that they are in good working condition and adjusted to minimize overflows and outflows.

- An inspection schedule for each potential overflow Discharge Point (i.e., Discharge Point Nos. 002, 003, 004, 005, 006, and 007) and

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critical combined wastewater collection and treatment system facilities. This schedule shall specify at least one inspection per month during the dry weather season (May 1 to September 30) and more frequent inspection during the wet season (October 1 to April 30). The inspections shall include, but are not limited to, entering regulator structures if accessible, determining the extent of debris and grit build-up, and removing any debris that may constrict flow, cause blockage, and result in dry weather overflows. For overflow Discharge Points that are inaccessible, the Discharger may perform a visual check.

- Documentation of the presence of debris during inspections of these facilities, and removal of these wastes to avoid blockages during precipitation events.

(2) Record the results of the inspections and routine maintenance activities in a maintenance log.

(c) Provision for Trained Staff. The Discharger shall describe in the Combined Wastewater Control System Plan of Operations the number of full-time equivalents needed to operate, maintain, repair, and perform testing functions required to ensure compliance with the terms and conditions of this Order. The Combined Wastewater Control System Plan of Operations shall also describe the appropriate training required of each staff member to perform his/her responsibilities.

(d) Allocation of Funds for Operation and Maintenance. The Discharger shall document the funds available for combined wastewater collection and treatment system operation and maintenance (O&M) activities and the procedures for budgeting. The Discharger shall identify as part of the Nine Minimum Controls Annual Report required in the Monitoring and Reporting Program (Attachment E, Section X.D.2), the funds committed to implement the Combined Wastewater Control System Plan of Operations, including all regularly scheduled inspection and maintenance activities.

(e) Untreated Discharges. The Discharger shall provide in the Combined Wastewater Control System Plan of Operations, the procedures for when and under what circumstances Discharge Point Nos. 004, 005 and 007 are used, as well as the treatment (if any) that is provided prior to discharge to the Sacramento River.

(f) Fats, Oil, and Grease (FOG) Control Program. The Discharger shall continue to implement a FOG control program to minimize the discharge of FOG wastes from households, restaurants and other food establishments.

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ii. Maximize Use of the Collection System for Storage.

(a) The Discharger shall maximize the use of the collection system for storage. The Discharger shall balance the storage needs with the goal of preventing outflows of sewage from the collection system to City streets.

(b) Based on the results of the CSS Water Quality Assessment required in Section VI.C.2.a. of this Order, the Discharger shall evaluate the need for and feasibility of increasing the storage capacity of the existing combined sewer system and the up-stream separate sanitary system. The Discharger shall continue to maximize the in-line storage capacity of both the combined sewer system and the sanitary system.

(c) The Discharger shall keep records to document implementation of this control measure and submit them as part of the Nine Minimum Controls Annual Report required in the Monitoring and Reporting Program (Attachment E, Section X.D.2).

iii. Review and Modify Pretreatment Program. Within 18 months from the effective date of this Order, the Discharger shall provide to the Regional Water Board the results of an evaluation of the potential impact from non-domestic users of the CSS during precipitation events, in terms of their contributions of pollutants in CSS outflows and CSOs. The Discharger shall determine whether additional modifications through the Sacramento Regional County Sanitation District's pretreatment program are necessary or of practical value. At a minimum, this evaluation shall include the feasibility of limiting or prohibiting discharges by non-domestic users during wet weather events and the feasibility of requiring some form of retention to prevent such discharges during wet weather events.

iv. Maximize Flow to POTW Treatment Plant.

(a) The Discharger shall operate the combined wastewater collection and treatment system at a maximum treatable flow during wet weather events. The Discharger shall report rainfall and flow data to the Regional Water Board as part of the Nine Minimum Controls Annual Report required in the Monitoring and Reporting Program (Attachment E, Section X.D.2).

(b) Combined Wastewater Control System Plan of Operations. The Discharger shall implement the Combined Wastewater Control System Plan of Operations to achieve the following objectives:

(1) Maximize the volume of wastewater treated at the SRWTP, Pioneer Reservoir, and the CWTP, consistent with the hydraulic capacities of the Discharger's storage, transport, treatment and disposal facilities, and

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(2) Assure that all discharges from the diversion structure are first baffled to reduce floatable volume.

The Discharger shall maintain records documenting the achievement of these objectives provide them as part of the Nine Minimum Controls Annual Report required in the Monitoring and Reporting Program (Attachment E, Section X.D.2).

v. Prohibit Combined Sewer Overflows During Dry Weather.

(a) Dry weather overflows from CSO Discharge Point Nos. 002 through 007 are prohibited. The Discharger shall inspect all CSS overflow points in accordance with the requirements in Section VI.C.4.b above. All dry weather overflows must be reported to the USEPA and the Regional Water Board within 24 hours of the Discharger becoming aware of the dry weather overflow. When the Discharger becomes aware of a dry weather overflow, the Discharger shall begin corrective actions immediately.

(b) The Discharger shall inspect the dry weather overflow point each subsequent day after the overflow until the overflow has been eliminated. The Discharger shall record in the inspection log each dry weather overflow event, as well as the cause, the estimated volume of the dry weather overflow, the corrective action taken, and the dates on which the overflow began and ended.

vi. Control Solid and Floatable Materials in CSOs.

(a) The Discharger shall continue to implement measures to control solid and floatable materials in its CSOs.

(b) The Discharger shall:

(1) Ensure that all overflows from the diversion structures are baffled or that other means are used to reduce the volume of solid and floatable materials discharged to the Sacramento River

(2) Remove solid and floatable materials captured in the storage and transport facilities in an acceptable manner prior to discharge to the Sacramento River

(3) Based on the results of the CSS Water Quality Assessment required in Section VI.C.2.a. of this Order, identify and study the feasibility of implementing additional measures to restrict the entry of solid and floatable materials (including green wastes) into the CSS. The Discharger shall document the evaluation of the measures that it identifies and studies and its decision to implement or not implement each studied measure.

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vii. Develop and Implement Pollution Prevention Program.

(a) The Discharger shall continue to implement a pollution prevention program focused on reducing to the greatest extent possible, the amount of contaminants that enter the CSS and the impacts of CSOs on the Sacramento River.

(b) Based on the results of the CSS Water Quality Assessment required in Section VI.C.2.a. of this Order, the Discharger shall identify opportunities for improving existing controls (including those controls implemented as part of the Discharger's MS4 program) for reducing the potential discharge of pesticides (e.g., diuron, chlorpyrifos, diazinon) during precipitation events when CSOs are likely to occur. This control plan shall identify the proposed control measures that will be used by the Discharger, and a schedule for its initiation and implementation.

(c) The Discharger shall keep records to document pollution prevention implementation activities and provide them as part of the Nine Minimum Controls Annual Report required in the Monitoring and Reporting Program (Attachment E, Section X.D.2).

viii. Notify the Public of Overflows.

(a) The Discharger shall implement its revised March 2007 "Standard Operating Procedures for Emergency Response."

(b) **Within 6 months from the effective date of this Order**, the Discharger shall evaluate and report on the implementation of the public notification provisions of the March 2007 "Standard Operating Procedures for Emergency Response" to ensure that the public is receiving adequate notification of CSS outflows and CSOs in accordance with the USEPA's CSO Control Policy and the CSS outflow reporting requirements contained in Attachment G of this Order. The Discharger shall investigate the feasibility of using additional means for notifying the public when CSOs and CSS outflows occur that may pose a risk to public health and the environment.

ix. Monitor to Effectively Characterize CSO Impacts and the Efficacy of CSO Controls.

(a) The Discharger shall regularly monitor CSO outfalls to effectively characterize overflow impacts and the efficacy of CSO controls. The specific monitoring requirements for CSOs are provided in Attachment E (Monitoring and Reporting Program).

(b) The Discharger shall submit as part of its Annual Operations Report that is due on 30 June of each year (see Attachment E, Section X.D.9), a summary of existing monitoring data and an evaluation of the efficacy of

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CSO controls (including pollution prevention efforts) to minimize and/or prevent impacts from CSOs. If necessary, the Discharger shall propose revisions to the CSO control program (including the Nine Minimum Controls) to improve the efficiency and effectiveness of controls.

(c) CSS Outflow Volume Estimates. The Discharger shall continue to provide accurate and reasonable estimates of outflows from the CSS. These methods shall be included in the Wastewater Collection Standard Operating Procedures.

c. Long-Term Control Plan. The Discharger shall continue implementation of the Long-Term Control Plan with the following interim goals to be met as progress is made towards the final goal of minimizing street flooding during a 10-year storm event and to prevent structure flooding during the 100-year storm event:

i. Obtaining protection from a 5-year storm in the six areas of worst flooding (including downtown, north of Capital park; U.C. Medical Center area; immediately south of Highway 80 between Riverside and Freeport; the area northeast of Highway 99 and Highway 80 interchange; the area northwest of Highway 99 and Highway 80 interchange, and the Land Park area),

ii. Obtaining protection from a 5-year storm throughout the combined sewer system area,

iii. Obtaining protection from a 10-year storm in the six areas of worst flooding, and then

iv. Obtaining the goal of protection from a 10-year storm event throughout the combined sewer system.

As part of the Annual Long-Term Control Program Progress Reports required in the Monitoring and Reporting Program (Attachment E, Section X.D.3), the Discharger shall report on the progress in achieving the interim goals listed above.

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 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 (e.g., 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.

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

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.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

A. Multiple Sample Data. When determining compliance with a Storm Year Average, effluent limitation and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

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

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

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ATTACHMENT A – DEFINITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in CWC 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
All surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

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

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

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

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

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

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

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

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

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

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

TENTATIVE ORDER

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

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

Reporting Level (RL)
RL is the ML (and its associated analytical method) 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
The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

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

TENTATIVE ORDER

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

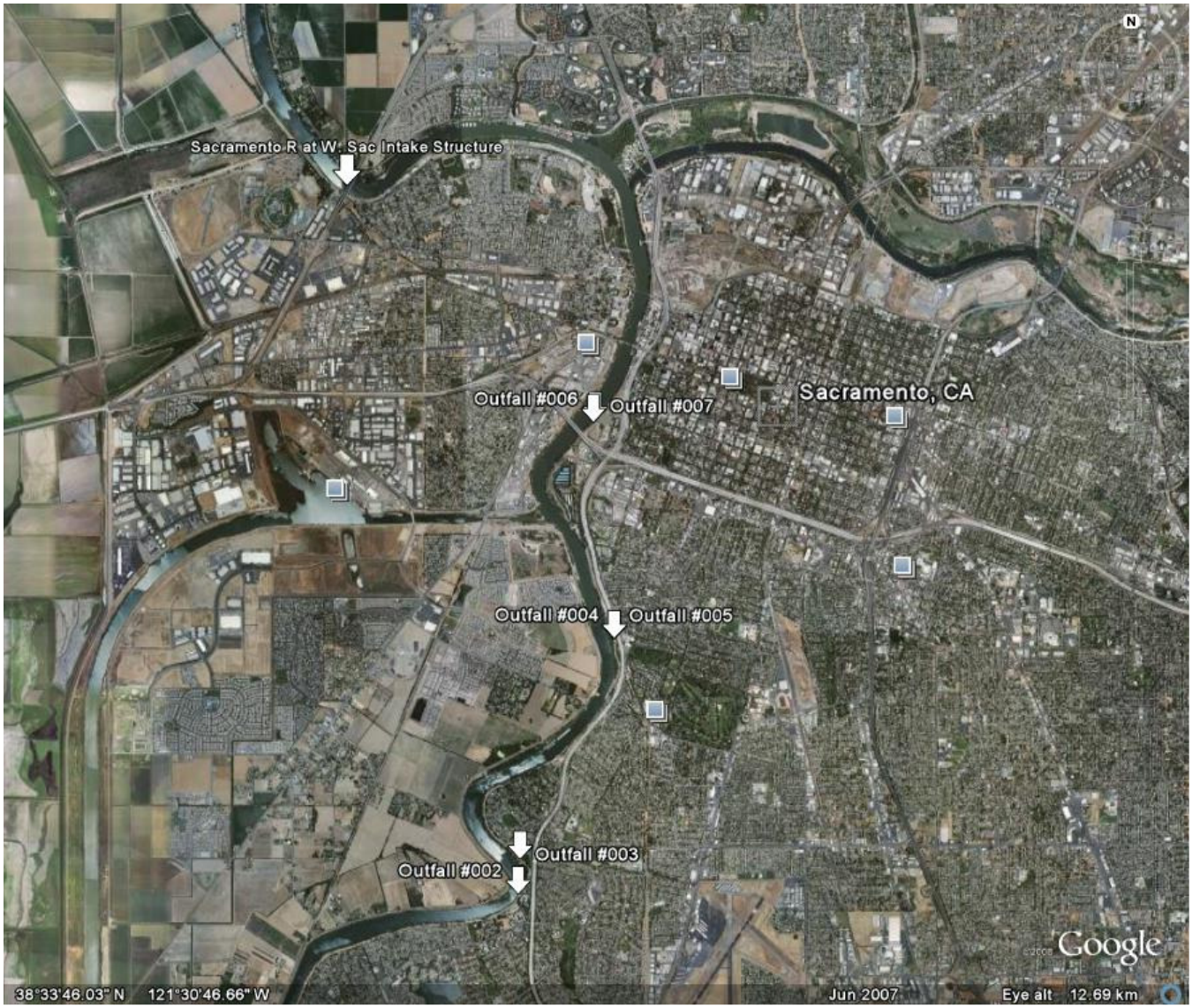
$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

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

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

TENTATIVE ORDER

ATTACHMENT B – MAP



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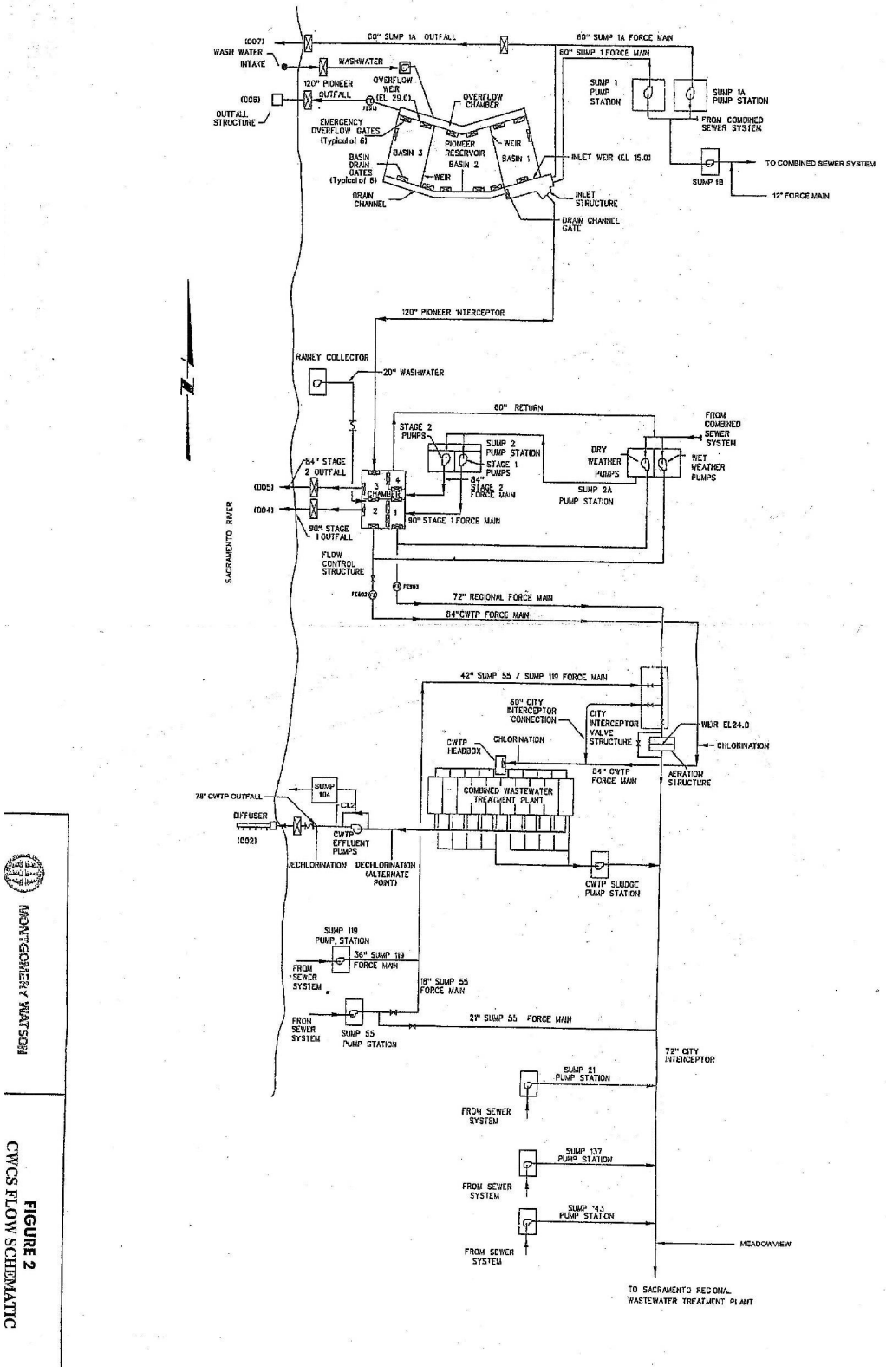
ATTACHMENT C – FLOW SCHEMATIC



TENTATIVE ORDER

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

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

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

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

TENTATIVE ORDER

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

F. Inspection and Entry

The Discharger shall allow the 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); CWC section 13383):

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

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

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

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

G. Bypass

1. Definitions

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

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

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

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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 ORDER

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 CWC. (40 CFR 122.41(l)(3) and 122.61.)

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III. STANDARD PROVISIONS – MONITORING

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

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

IV. STANDARD PROVISIONS – RECORDS

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

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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 ORDER

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).)

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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 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 CFR 122.41(l)(4)(ii).)

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

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

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

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

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

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

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

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

F. Planned Changes

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

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

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 CFR 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing 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).)

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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 CWC, including, but not limited to, sections 13385, 13386, and 13387

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

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

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

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

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

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

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

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

TENTATIVE ORDER

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

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

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

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

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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

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

C. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the Department of Public Health (DPH; formerly the 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.

D. All analyses shall be performed in a laboratory certified to perform such analyses by DPH. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board.

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

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

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

H. 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.

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

J. 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.

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II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	INF-001	At a location that is representative of influent to the Pioneer Reservoir and CWTP
002	EFF-002	CWTP effluent downstream from last connection through which wastes can be admitted into the outfall
003	EFF-003	CWTP (Storm Sump 104) effluent downstream from last connection through which wastes can be admitted into the outfall
004	EFF-004	Sump 2/2A Gate #4
005	EFF-005	Sump 2/2A Gate #5
006	EFF-006	Pioneer Reservoir effluent downstream from last connection through which wastes can be admitted into outfall
007	EFF-007	Pioneer Reservoir Combined Sump 1A Bypass
--	RSW-001	Upstream of CSO Discharge Point Nos. 006 and 007, at the Delta King
--	RSW-002	Downstream of Discharge Point Nos. 006 and 007, at Miller Park
--	RSW-003	Downstream of Discharge Point Nos. 004 and 005, at La Rivage
--	RSW-004	Downstream of Discharge Point Nos. 002 and 003, at Wooden Stairs

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III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the Facility at INF-001 as described in the following table. Samples shall be collected at approximately the same time as effluent samples and should be representative of the influent for the period sampled. If no discharge from the CWTP (Discharge Point Nos. 002 or 003) and/or Pioneer Reservoir (Discharge Point No. 006) is occurring, no influent monitoring is required (and the Discharger shall indicate that no monitoring was required in the monthly self-monitoring reports required in Section X.B. of this Monitoring and Reporting Program).

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous[1]	[3]
Total Suspended Solids	mg/L	Flow-weighted Composite	1/Discharge Event[2]	[3]
Settleable Solids	ml/L	Grab	1/Discharge Event[2]	[3]

[1] Flow monitoring is required continuously during the storm event that resulted in a discharge from Discharge Point Nos. 002, 003 and/or 006.
[2] At least one grab sample is required during the first 4 hours of a discharge from Discharge Point Nos. 002, 003 and/or 006. If the duration of the discharge event is greater than 24 hours, daily samples shall be collected.
[3] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations EFF-002, EFF-003, and EFF-006

1. The Discharger shall monitor CWTP effluent at Monitoring Locations EFF-002 or EFF-003, and Pioneer Reservoir effluent at Monitoring Location EFF-006, as follows. If no discharge from the CWTP (Discharge Point Nos. 002 or 003) and/or Pioneer Reservoir (Discharge Point No. 006) is occurring, no effluent monitoring is required (and the Discharger shall indicate that no monitoring was required in the monthly self-monitoring reports required in Section X.B. of this Monitoring and Reporting Program).

Table E-3. Effluent Monitoring (Monitoring Locations EFF-002, EFF-003, and EFF-006)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Flow	mgd	Meter	Continuous[1]	[4]
Total Flow	Million gallons	Meter	Continuous[1]	[4]
Flow Duration	Hours	Calculate	Continuous[1]	[4]
Total Suspended Solids	mg/L	Grab	1/Discharge Event[3]	[4]
Total Suspended Solids	% Removal[2]	Calculate	1/Discharge Event[3]	[4]
Settleable Solids	mL/L	Grab	1/Discharge Event[3]	[4]
pH	Standard Units	Grab	1/Discharge Event[3]	[4]
Dissolved Oxygen	mg/L	Grab	1/Discharge Event[3]	[4]
Fecal Coliform	MPN/100 mL	Grab	1/Discharge Event[3]	[4]
Chlorine, Total Residual	mg/L	Grab	1/Discharge Event[3]	[4]
Mercury, Total Recoverable	µg/L	Grab	1/Discharge Event[3]	[4,5]
Methylmercury	µg/L	Grab	1/Discharge Event[3]	[4]
Chlorpyrifos	µg/L	Grab	1/Discharge Event[3]	[4,6]
Diazinon	µg/L	Grab	1/Discharge Event[3]	[4,6]
Temperature	°F	Grab	1/Discharge Event[3]	[4]

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[1] Flow monitoring is required continuously during the storm event that resulted in a discharge from Discharge Point Nos. 002, 003 and/or 006.
[2] Report removal efficiency (%) for each storm event using influent (INF-001) and effluent values for Discharge Point Nos. 002, 003 and 006.
[3] At least one grab sample is required during the first 4 hours of a discharge. If the duration of the discharge event is greater than 24 hours, daily samples shall be collected.
[4] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.
[5] The analytical methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP.
[6] Diazinon and chlorpyrifos shall be analyzed using USEPA Method 8141A, USEPA Method 625M or equivalent GC/MS method to reporting limits of 0.020 µg/L and 0.010 µg/L, respectively.

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B. Monitoring Locations EFF-004, EFF-005, and EFF-007

1. The Discharger shall monitor Sumps 2/2A effluent at Monitoring Location EFF-004 and EFF-005, and Pioneer Reservoir Combined Sump 1A untreated effluent at Monitoring Location EFF-007, as follows. If no discharge from the Discharge Point Nos. 004, 005 and/or 007 is occurring, no effluent monitoring is required (and the Discharger shall indicate that no monitoring was required in the monthly self-monitoring reports required in Section X.B. of this Monitoring and Reporting Program).

Table E-4. Effluent Monitoring (Monitoring Locations EFF-004, EFF-005, and EFF-007)

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Flow	mgd	Meter	Continuous[1]	[3]
Total Flow	Million gallons	Meter	Continuous[1]	[3]
Flow Duration	Hours	Calculate	Continuous[1]	[3]
pH	Standard Units	Grab	1/Discharge Event[2]	[3]
Dissolved Oxygen	mg/L	Grab	1/Discharge Event[2]	[3]
Temperature	°F	Grab	1/Discharge Event[2]	[3]
Total Suspended Solids	mg/L	Grab	1/Discharge Event[2]	[3]
Settleable Solids	mL/L	Grab	1/Discharge Event[2]	[3]
Fecal Coliform Organisms	MPN/100 mL	Grab	1/Discharge Event[2]	[3]

[1] Flow monitoring is required continuously during the storm event that resulted in a discharge from Discharge Point Nos. 004, 005 and/or 007.
[2] At least one grab sample during the first 4 hours of a discharge. If the duration of the discharge event is greater than 24 hours, daily samples shall be collected.
[3] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing. In performing the CSS Water Quality Assessment required in Section VI.C.2.a of this Order, the Discharger shall conduct acute toxicity testing in accordance with the following acute toxicity testing requirements:

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

2. *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.

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

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

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Locations RSW-001, RSW-002, RSW-003, and RSW-004

1. The Discharger shall monitor the Sacramento River at Monitoring Locations RSW-001, RSW-002, RSW-003, and RSW-004 as follows. Samples shall be collected at Monitoring Locations RSW-001 and RSW-002 when discharge is occurring at Discharge Point Nos. 006 and/or 007. Samples shall be collected at Monitoring Locations RSW-002 and RSW-003 when discharge is occurring at Discharge Point Nos. 004 and/or 005. Samples shall be collected at Monitoring Locations RSW-003 and RSW-004 when discharge is occurring at Discharge Point Nos. 002 and/or 003.

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	Standard Units	Grab	1/Discharge Event[1]	[2]
Temperature	°F (°C)	Grab	1/Discharge Event[1]	[2]
Dissolved Oxygen	mg/L	Grab	1/Discharge Event[1]	[2]
Turbidity	NTUs	Grab	1/Discharge Event[1]	[2]

[1] Within the first 4 hours of beginning of storm causing discharge at any of the Discharge Points (Nos. 002, 003, 004, 005, 006, and/or 007), daily if the discharge event is greater than 24 hours. Consideration will be given for events lasting less than 2 hours in duration due to the difficulty involved in collecting receiving water samples during short discharge events. For events that last less than 2 hours the Discharger shall make an effort to collect samples.
[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

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2. In conducting the receiving water sampling, a log shall be kept, as safety conditions permit, of the receiving water conditions throughout the reach bounded by Monitoring Locations RSW-001 and RSW-004. Attention shall be given to the presence or absence of:

   a. Floating or suspended matter

   b. Discoloration

   c. Bottom deposits

   d. Aquatic life

   e. Visible films, sheens or coatings

   f. Fungi, slimes, or objectionable growths

   g. Potential nuisance conditions

   Notes on receiving water conditions shall be summarized in the monthly self-monitoring report required in Section X.B of this Monitoring and Reporting Program.

IX. OTHER MONITORING REQUIREMENTS – NOT APPLICABLE

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.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State Water Board or the Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality

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System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

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

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

Table E-6. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
1/Discharge Event	First discharge event after the effective date of this Order	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling

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

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

a. Sample results greater than or equal to the reported ML 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.

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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.

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

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.

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

a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions.

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Identified violations must include a description of the requirement that was violated and a description of the violation.

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

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

C. Discharge Monitoring Reports (DMRs)

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

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

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

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

D. Other Reports

1. Combined Sewer System Outflow Reporting. The Discharger shall comply with all reporting requirements for combined sewer system outflows as described in Attachment G.

2. Nine Minimum Controls Annual Progress Report. The Discharger shall submit documentation that demonstrates implementation of each of the nine minimum controls that includes the elements contained in Sections X.D.2.a through X.D.2.i below. The Discharger shall submit this documentation to the Regional Water Board on or before 30 June each year.

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a. Proper operation and regular maintenance programs. The Discharger shall submit:

i. A list identifying critical combined wastewater collection and treatment system components requiring routine maintenance and operation.

ii. An evaluation of operation and maintenance procedures performed during the previous year.

iii. Estimated resources (manpower, equipment, and training) required for maintenance of the CSS and CSO structures.

iv. An organizational chart or diagram detailing names and telephone numbers of key personnel, the chain of command, and the relationship among various program components.

v. A record of overflows that occurred during the previous year, including the date, location, duration, and volume of each overflow.

vi. A summary of completed inspections and maintenance performed.

vii. A status report on implementation of a FOG control program.

b. Maximization of the sewer collection system storage. The Discharger shall submit :

i. A description of the actions taken to maximize collection system storage during the previous year.

ii. Schedules for completing any construction necessary to implement projects the Discharger previously committed to implement, including the current status of projects underway, final completion dates, and dates by which interim steps will be completed.

c. Review and modify the pretreatment program. The Discharger shall submit:

i. Any Discharger-initiated changes to the Sacramento Regional County Sanitation District pretreatment program.

d. Maximize flow to the POTW Treatment Plant. The Discharger shall submit:

i. Rainfall and flow data associated with the discharge event resulting in any discharge from Discharge Point Nos. 002, through 007 during the previous year.

ii. Documentation that flows were maximized in accordance with the Combined Wastewater Control System Plan of Operations.

e. Elimination of CSOs during dry weather. The Discharger shall submit:

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i. A summary of dry weather overflows that have occurred since its last report.

ii. The cause of, the estimated volume of, and the corrective actions taken to eliminate, each dry weather overflow that occurred since the last report.

iii. Description of the procedures used to detect dry weather overflows and notify the USEPA and the Board within 24 hours of detecting a dry weather overflow

f. Control of solid and floatable materials in CSOs. The Discharger shall submit:

i. A description of control measures currently in place for limiting the volume of solid and floatable materials in the CSOs.

ii. The status of any recommendations implemented as a result of the CSS Water Quality Assessment as required in Section VI.C.2 of this Order.

g. Pollution prevention programs to reduce contaminants in CSOs. The Discharger shall submit:

i. Documentation of pollution prevention program actions taken since its last report.

ii. The status of any recommendations implemented as a result of the CSS Water Quality Assessment as required in Section VI.C.2 of this Order.

h. Public notification. The Discharger shall submit:

i. Any updated procedures for notifying governmental entities of outflows and CSOs, including the names and titles of the specific officials to be notified, the names and titles of the persons responsible for making the notifications and the timeframes within which the notifications must be made.

ii. Documentation that CSO Discharge Point Nos. 002 through 007 are posted with signs informing the public of potential health risks and adverse environmental impacts. If these discharge points are already posted, the Discharger shall submit the language that is on each sign.

iii. Any updates to the public notification procedures in the "Standard Operating Procedures for Emergency Response" intended to provide the public with adequate notification of CSOs and CSS outflows, including appropriate warnings regarding potential exposure and public health hazards to be avoided.

i. Monitoring to characterize CSO impacts and efficacy of CSO controls. The Discharger shall submit:

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i. A summary of CSO discharge occurrences during the previous year (total number of events and frequency, duration, volume and pollutant loadings of each event).

ii. Summary of water quality data collected during the previous year for impacted receiving water bodies.

iii. Summary of receiving water impacts during the previous year (e.g., beach closings, floatable material wash-ups, fish kills) as a result of any discharge from Discharge Point Nos. 002 through 007.

3. Annual Long-Term Control Program Progress Reports. By **30 June of each year**, the Discharger shall prepare and submit annual LTCP progress reports. The annual LTCP updates shall include, at a minimum, the following:

a. Description of overall progress and proposed schedule for achieving each of the LTCP interim and final goals as described in Section VI.C.4.c. of this Order.

b. Status of current on-going CSS improvement and rehabilitation projects initiated in the previous year or earlier. For each project provide:

i. Type of Project

ii. Date Approved

iii. Date Budgeted

iv. Date Started

v. Current Status

vi. Percentage Completed

vii. Current Status of Operational Improvements (e.g., two of three new pumps operational)

viii. Original Planned Completion Date

ix. Expected Completion Date (if applicable, include explanation for any delays from the original planned completion date)

x. Comments for Partially Completed Projects (e.g., trunk line can presently manage an additional 20 MGD rate during wet weather)

xi. Comments for Completed Projects (e.g., plant bar screens need modification due to additional wet weather flows and debris)

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c. Planned improvement and rehabilitation projects to be implemented in the upcoming year. For each project provide:

i. Type of Project

ii. Date Approved

iii. Date Budgeted

iv. Planned Start Date

v. Planned Completion Date

vi. Comments

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

a. The names 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.

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ATTACHMENT F – FACT SHEET

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

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

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I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	**xxxx**
Discharger	City of Sacramento
Name of Facility	Combined Wastewater Collection and Treatment System
Facility Address	1395 35th Avenue
	Sacramento, CA 95822
	Sacramento County
Facility Contact, Title and Phone	Marty Hanneman, Director Department of Utilities, (916) 808-7508
Authorized Person to Sign and Submit Reports	Marty Hanneman, Director Department of Utilities, (916) 808-7508
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Type of Facility	Combined Sewer System
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	N (Note : The pretreatment program for indirect users that discharge to the City's combined sewer system is the implemented by the Sacramento Regional County Sanitation District)
Reclamation Requirements	Not Applicable
Facility Permitted Flow	380 million gallons per day (mgd) of treated flow
Facility Design Flow	380 mgd of treated flow
Watershed	Sacramento-San Joaquin River Basin Watershed
Receiving Water	Sacramento River
Receiving Water Type	Inland Surface Water

A. The City of Sacramento (hereinafter Discharger) is the owner and operator of the combined wastewater collection and treatment system (hereinafter Facility). The Facility includes a Combined Sewer System (CSS) that collects domestic and industrial wastewater and storm runoff.

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 treated and untreated combined wastewater and storm runoff to the Sacramento River, a water of the United States, and is currently regulated by Order No. 5-01-258 which was adopted on 7 December 2001 and expired on 1 December 2006. The terms and conditions of the current Order 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.

C. The Discharger filed a report of waste discharge and submitted an application for renewal of its WDRs and NPDES permit on 2 June 2006.

II. FACILITY DESCRIPTION

The Discharger owns and operates a CSS that conveys domestic and commercial wastewater and storm water runoff from 7,510 acres (approximately 334 miles of sewer pipe) in downtown Sacramento, East Sacramento, and Land Park areas. The Discharger also owns and operates a separate sanitary sewer system that conveys domestic and commercial wastewater from 3,690 acres (approximately 566 miles of sewer pipe) from parts of the City surrounding the CSS to the north, east, and south. A portion of the flow from the separate sanitary sewer system flows into the CSS; the remainder flows by gravity or is pumped to the Regional Interceptors to the Sacramento Regional County Sanitation District's regional wastewater treatment plant (SRWTP). The entire collection system serves approximately 300,000 people.

A. Description of Wastewater and Biosolids Treatment or Controls

The Facility consists of four main complexes to manage the collected combined sewage: Sumps 1/1A, Sumps 2/2A, the Pioneer Reservoir Treatment Plant, and the Combined Wastewater Treatment Plant (CWTP). The CSS conveys domestic and industrial wastewater and storm runoff to Sumps 2/2A, where up to 60 million gallons per day (mgd) of flow is pumped via the Regional Force Main to the SRWTP for secondary treatment prior to discharge to the Sacramento River. When flow to Sumps 2/2A exceeds 60 mgd, flows may be routed through the Pioneer Interceptor to fill available storage in the Pioneer Reservoir (23 million gallons of storage capacity in the reservoir itself and 5 million gallons of storage capacity in the Pioneer Interceptor) r the CWTP. Once available storage in the Pioneer Reservoir is filled, the CWTP is filled maximizing the available storage, flows continue to be sent to the Pioneer Reservoir for primary treatment with disinfection (using sodium hypochlorite) of up to 250 mgd and, after dechlorination (using sodium bisulfite), discharge to the Sacramento River at Discharge Point No. 006 and/or sent via the CWTP Force Main to the CWTP, where an additional 130 mgd of combined wastewater receives primary treatment with disinfection (using sodium hypochlorite) and discharges to the Sacramento River at Discharge Point Nos. 002 or 003. The CWTP basins may also be used for storage of up to 9.2 million gallons (including the CWTP Interceptor) of flow and diversion of flows back to the

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SRWTP. During major storms, Sumps 1/1A also pumps up to 120 mgd of flow to Pioneer Reservoir. During extreme high flow conditions, discharges of untreated combined wastewater may occur at Sump 2/2A through Discharge Point Nos. 004 and 005 and at the Sump 1/1A bypass at Discharge Point No. 007. Each of the six permitted combined sewer overflow (CSO) Discharge Points (Nos. 002 through 007) discharge directly to the Sacramento River.

The Facility also includes several remote storage facilities at strategic locations within the combined sewer system to minimize the potential for localized flooding.

In accordance with the Terms of a 1990 Cease and Desist Order (CDO), the Discharger completed several studies that identified cost-effective measures for achieving the objectives of the CDO – eliminating CSS outflows and not increasing CSOs. The Long-Term Control Plan (LTCP) alternative that was ultimately selected was the most feasible alternative in meeting the requirements of the CDO and the U.S. Environmental Protection Agency (USEPA) CSO Control Policy while also providing funding for system rehabilitation. In addition, the LTCP as presented in the 1995 Combined Sewer System Improvement Plan went beyond these goals in also raising the level of protection for flooding within the CSS area to the newly City defined levels.

The first 5 years of the LTCP implementation proposed the completion of projects to bring the CSS into compliance with the CDO and USEPA CSO Control Policy in reducing untreated combined sewer discharges to the Sacramento River. These projects were completed to reduce CSOs and CSS outflows.

The second phase of the 1995 LTCP (beginning after 2000) would complete proposed projects over the next 10 to 15 years (i.e., completion within the 2010 to 2015 timeframe). These projects would achieve interim goals that support the Discharger adopted goals for flooding of the storm drainage system. The flood reduction goals also provide a reduction in outflow potential from the CSS. At the time of the study storm runoff accounted for approximately 65 percent of the volume of overall expected annual flooding, while outflows accounted for approximately 35 percent. The Discharger is currently completing the second phase of the 1995 LTCP.

The 1995 LTCP (entitled the Combined Sewer System Improvement Plan) set the following interim goals to be met as progress is made towards the Discharger's final goal of minimizing street flooding during a 10-year storm event and to prevent structure flooding during the 100-year storm event:

- Obtaining protection from a 5-year storm in the six areas of worst flooding[1],
- Obtaining protection from a 5-year storm throughout the combined sewer system area,

[1]These six areas include downtown, north of Capital park; U.C. Medical Center area; immediately south of Highway 80 between Riverside and Freeport; the area northeast of Highway 99 and Highway 80 interchange; the area northwest of Highway 99 and Highway 80 interchange, and the Land Park area).

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- Obtaining protection from a 10-year storm in the six areas of worst flooding, and then

- Obtaining the goal of protection from a 10-year storm event throughout the combined sewer system.

The first phase of the 1995 Plan concluded that increasing the pumping capacities of Sumps 1/1A and 2 concurrent with rehabilitation of the CSS and development of local storage projects, was the most cost-effective initial approach for reducing flooding and outflows from the CSS. In accordance with requirements contained in their existing Order (Order No. 5-01-258), the Discharger provided an update to the Plan in March 2002 in accordance with the requirements contained in the existing Order to bring up to date the status of current projects and goals. This update described several efforts being undertaken by the City:

- Continuing assessment of the effectiveness of CSS improvements using the City Storm Water Management Model (SWMM);

- Replacing and increasing the sizes of a network of CSS trunks in the downtown area (in the 7th Street, S Street, and 15th Street areas);

- Constructing an 84-inch interceptor across I-5 to serve as an additional inlet to Sump 1A and provide additional in-line storage;

- Constructing a regional storage facility on the Union Pacific rail yard to relieve flooding in the areas around the rail yard;

- Initiating a pilot program related to the use of Real Time Control (RTC) to operate the regional storage facilities; and

- Continuing efforts to rehabilitate and replace the CSS collection system.

Also in accordance with requirements contained in Order No. 5-01-258, the Discharger provided in May 2003 a performance update as it relates to progress towards meeting the goals outlined in the 1995 Plan. The following summarizes the performance update provided by the Discharger:

- CSS Improvement Projects – Performance was improved based on the completion of a variety of CSS rehabilitation and improvement projects, including local and Regional storage projects).

- CSS Performance over the Previous 2 Years – A reduction in complaint calls within the CSS (registered with the City's Rain Patrol system) as compared to the number of complaints received during previous storms of slightly greater size indicates the effectiveness of the improvement and rehabilitation projects.

  The Discharger utilized the City SWMM to analyze the effect of completed projects on system flooding, as well as projected system flooding based on future

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CSS projects. The Discharger concluded that significant reductions or elimination of flooding was occurring in the vicinity of the major projects.

The Discharger also reported on field observations by their staff that indicated no outflows onto streets and properties, and out of system manholes.

- Future Plans and System Improvement Needs – Complete construction of an 84-inch interceptor across I-5 to serve as an additional inlet to Sump 1A and provide additional in-line storage; continue pursuing the construction of a regional storage facility on the Union Pacific rail yard to relieve flooding in the areas around the rail yard; and continue efforts to rehabilitate and replace the CSS collection system.

Also in 1995 the Discharger completed and submitted a water quality assessment titled "Effluent and Receiving Water Quality and Toxicity Summary Report in 1995" for the CSS that used the Presumptive Approach to demonstrate compliance with the water quality-based requirements of the Clean Water Act (CWA). In addition, the report used 5 years of extensive monitoring data to characterize CSOs and complete a water quality assessment of receiving water impacts. The analysis concluded that the CSS program provided an adequate level of control to meet the water quality-based requirements of the CWA. The report recommended an ongoing monitoring program that was subsequently accepted by the Regional Water Board and has been implemented by the Discharger.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 22, T8N, R4E, MDB&M, as shown in Attachment B, a part of this Order.

2. Domestic and industrial wastewater and storm runoff with primary treatment and disinfection is discharged from the CWTP at Discharge Point Nos. 002 (38º31.164' N and 121º31.440' W) or 003 (38º31.397' N and 121º31.424' W) to the Sacramento River, a water of the United States.

3. Untreated domestic and industrial wastewater and storm runoff from Sumps 2 and 2A is discharged at Discharge Point Nos. 004 (38º33.869' N and 121º31.622' W) and 005 (38º32.864' N and 121º31.623' W) to the Sacramento River, a water of the United States.

4. Domestic and industrial wastewater and storm runoff with primary treatment and disinfection is discharged from the Pioneer Reservoir at Discharge Point No. 006 (38º34.308' N and 121º31.800' W) to the Sacramento River, a water of the United States.

5. Untreated domestic and industrial wastewater and storm runoff from Sumps 1 and 1A is discharged at Discharge Point No.007 (38º34.322' N and 121º30.786' W) to the Sacramento River, a water of the United States.

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

Effluent limitations contained in the existing Order for discharges from Discharge Point No. 002, 003, and 006 (Monitoring Location EFF-002) and representative monitoring data from the term of the previous Order are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (From November 2002 – To January 2009)		
		Storm Year Average[1]	Storm Maximum	Storm Year Median[1]	Highest Average Yearly Discharge	Highest Storm Maximum Discharge	Highest Storm Year Median Discharge
Total Suspended Solids (TSS)	mg/L	100[2, 3]	--	--	103	--	--
Settleable Solids	mg/L	--	1.0[3]	--	--	7.1	--
Chlorine Residual	mg/L	--	0.02	--	--	1.8	--
Fecal Coliform Organisms	MPN/100 ml	--	--	200[4,5]	--	--	330

[1] 1 October through 30 September
[2] In addition, two consecutive samples shall not exceed 150 mg/L
[3] Pioneer Reservoir for flows of 250 mgd or less and all flows at the CWTP
[4] In addition, no three consecutive samples shall exceed 1,000 MPN/100mL
[5] The Discharger shall continuously operate the chlorination equipment when discharging to the Sacramento River

D. Compliance Summary

1. During the previous permit term, the CSS post construction condition has met the requirements for the Presumptive Approach (see related discussion in section IV.C.3 below) with untreated CSOs averaging less than one per year, and over 90 percent of the CSS flow volume during storm events receiving primary treatment.

2. Data submitted to the Regional Water Board during the previous permit term indicate that the Discharger has infrequently exceeded existing permit limitations for settleable solids and total suspended solids.

3. On 19 September 2004, outflows from the CSS occurred as a result of a significant rainfall event that severely impacted several areas of the City, including Land Park. The Regional Water Board conducted an inspection on 20 September 2004 to observe the Discharger's cleanup activities relative to the rainfall event. The Regional Water Board and the USEPA Region 9 conducted a compliance evaluation inspection (CEI) of the Discharger's combined wastewater collection and control system on 29 September 2004 partly in response to the 19 September 2004 event. On 20-21 July 2005 the Regional Water Board and USEPA Region 9 completed the

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CEI effort, examining both the combined and separate parts of the City's wastewater collection and control systems. In December 2004, the Regional Water Board issued a Water Code Section 13267 request for additional information subsequent to the receipt and review of the Discharger's 22 October 2004 After Action Report related to the 19 September 2004 rainfall event. The Section 13267 request required the submission of additional information related to the Discharger's response and actions related to the event, as well as additional information identified during the 29 September 2004 CEI. On 11 March 2005, the Discharger provided a partial response to the Section 13267 request.

The following major findings from the CEI, which serve as the basis for several new or expanded provisions in the new Order, were identified in the 13 December 2005 Final Draft of USEPA Region 9 Clean Water Act Compliance Evaluation Report (followed by the Discharger's response to several of USEPA's findings in the inspection):

- The Discharger failed to comply with several of the USEPA CSO Control Policy Nine Minimum Controls, as specified in Attachment C to Order No. 5-01-258. USEPA found deficiencies in the City's programs and practices under control measure #1 (proper operations and maintenance), measure #2 (maximize use of the collection system for storage), measure #3 (pretreatment program), measure #6 (control solid and floatable material), measure #8 (public notification), and measure #9 (measuring the efficacy of CSO controls).

  Note that the Discharger was not in agreement with USEPA's concern for the need for additional measures to maximize use of collection system for storage based on the "meaning and intent" of this control; claiming optimal use of "available" facilities to minimize CSS outflows complies with the requirement.

- Phase 1 of the Discharger's Long-Term Control Plan (LTCP), which is now complete, focused on improvements to pump stations and combined wastewater storage and treatment facilities aimed at reducing the volume and improving the quality of combined sewer overflows to the Sacramento River.

- The Discharger had 10 CSO discharge events to the Sacramento River over the last 3 years. In storm year 2002/2003, the City exceeded the total suspended solids effluent limit at CSO Discharge Point No. 006.

- The Discharger is now implementing the second phase of its LTCP that focuses on reducing CSS outflows and street flooding. The Discharger adopted a goal of preventing outflows and flooding in the CSS area from a 10-year storm event. The LTCP includes interim goals of eliminating outflows and flooding from a 5-year storm, first in six priority areas and then, throughout the CSS service area.

- The Discharger has completed a number of off-line storage facilities in the CSS that reduce outflows in parts of the CSS service area.

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- The Discharger's hydraulic model estimates that many parts of the CSS service area remain at risk for outflows and flooding from a 10-year storm. It is likely that outflows and flooding will result from smaller storms, but it not known how small of a storm will cause CSS outflows.

- The Discharger has not adequately documented its progress towards attaining the LTCP goals related to outflows and street flooding. It is not known how many CSS outflows have occurred or if outflows are decreased because the Discharger does not keep records of outflows.

- Each year, the Discharger identifies additional Phase 2 LTCP projects to be completed in the coming year. Many of these projects have been completed, however, some important projects, including the Union Pacific Railyard storage basin, have been delayed.

- The Discharger has not identified all of the additional projects needed to meet the interim or final LTCP goals of controlling outflows resulting from 5-year and 10-year storms.

- On 19 September 2004, the City of Sacramento was hit with an unusually large storm that dropped nearly 2 inches of rain in about one hour. The storm caused street flooding and outflows throughout the downtown, eastern and southern parts of Sacramento. The Land Park and McKinley Park areas were especially hard-hit by CSS outflows. The combined wastewater outflows contained human sewage and left the ground littered with sanitary waste.
  - During the 19 September 2004 storm, the bar screens at the Discharger's main combined wastewater pump station (Sump 2/2A) were obstructed with debris, causing wastewater to backup into the collection system and out onto city streets. Also during the storm, the Discharger was not able to start all of the pumps at Sump 1/1A that may have further contributed to CSS outflows. The Discharger had not provided a complete accounting of the storm-day operations at Sumps 1/1A and 2/2A, how it affected CSS outflows or what will be done to prevent future problems at these stations.
  - Combined wastewater outflows on 19 September 2004 probably exceeded 10 million gallons.
  - To inform the public, the Discharger provided information about the outflows and flooding to the news media on 19 September 2004 and each day of the week following the storm. Other aspects of the Discharger's public notification were slow and inadequate. The Discharger did not cordon-off impacted parks or post warning signs until September 20th. Informational fliers provided to residents did not warn off the hazards associated with raw wastewater.

  In response, the Discharger noted that
  - The 19 September 2004 storm was an unprecedented 1-in-50,000 year event that occurred during period of dry weather operation, overwhelming the CSS

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and far exceeding the design capacity; and therefore, should not be relevant to compliance status.
  - The Curtis Park Regional Storage project will reduce flooding in the vulnerable southeast portion of Land Park. Also the Discharger was in the planning phases to resolve surcharge issues in the McKinley Park area.
  - There was debris in the Sump structures, other than green waste, which was out of the Discharger's control (e.g., leaves, branches and other debris from yards, driveways, rooftops).
  - The Discharger examined alternatives for Sump 2A dry-side pumps only. The Discharger also claimed that even if Sump 1 was mobilized, flooding immediately east of station would not have been significantly reduced due to the size of pipe (84-inch).
  - Revisions to the public notification process have been made subsequent to the storm event. The Discharger also conducted meetings with County Health and County Environmental Health Officials to develop better procedures and staff responsibilities.
  - Contact was made on 20 September with the County Health Officer but the message failed to reach her. The Discharger also claims decisions related to public health measures should be handled by County Health Department.

- The Discharger's spill response plan does not include adequate procedures for many important spill response activities.

- In fiscal year 2004/2005, the Discharger recorded 102 sewage spills totaling 7,435 gallons (these figures do not include the outflows on September 19, 2004).

- The Discharger's sewage pump stations are well equipped with backup systems and alarms.

- The Discharger does not have a program to regulate restaurant grease discharges to the sewer system. The Discharger has not evaluated what impact restaurant grease is having on the Discharger's sewer system.

  The Discharger claimed that this finding is incorrect as the City did participate in a regional study that concluded that regulation of restaurants was unnecessary. The Discharger has since implemented an outreach program for the community and restaurants.

- The Discharger lacks data on the condition of its sewers. Fiscal Year 2004/2005, when the Discharger inspected 31 miles of sewer pipes, was the first year that the Discharger had an established procedure for documenting pipe condition findings.

  The Discharger claims this finding was incorrect as the Discharger has been performing closed-circuit television inspections for over 20 years.

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- The Discharger has rehabilitated or replaced about 3 percent of its collection system over the last 10 to 20 years. At this rate, it will take several hundred years to renew the Discharger's sewer infrastructure compared to a useful life expectancy of about 100 years.

- The Discharger has initiated its sewer infrastructure Replacement and Management Program (RAMP) and is working on a criticality analysis of needed improvement projects.

On 13 January 2006, the Discharger provided a response to USEPA's draft CEI report (dated 13 December 2005). In addition to a number of factual errors identified by the Discharger, a number of issues related to the CEI findings were also raised.

Subsequent to the CEIs, the Discharger has initiated a number of updates to their CSS standard operating and response procedures. The Discharger submitted as part of their ROWD, an updated Plan of Operations, dated 31 May 2006, that describes the general procedures for operation of the CSS. The Discharger is currently preparing an update to the Plan of Operations. In addition, the Discharger developed the Wastewater Collection Standard Operating Procedures (March 2007). The Wastewater Collection Standard Operating Procedures provide the implementation plans for response to CSS outflows and CSOs, and replace the previous Sewer Emergency Response Plan used by the Discharger.

4. On 25 August 2008 the Regional Water Board issued a Record of Violations (ROV) to the Discharger for periodic violations of effluent limitations for chlorine residual, TSS, and pH for the period January 2001 through January 2008. On 10 November 2008 the Regional Water Board issued an Administrative Civil Liability Complaint (R5-2008-0609) based on the ROV.

E. Planned Changes

The most recent City Utilities Capital Improvement Program (CIP) provides the projected expenditures for the CSS Improvement Plan (i.e., the July 1995 Combined Sewer System Improvement Plan) for 2008 through 2013. The CIP acknowledges the total cost for the CSS Improvement Plan is $132 million; the total budget for sewer programs for 2008/2009 was $4.1 million (which includes budgets for the combined system; however, it is uncertain what the total funding is specifically for the combined systems). The CIP also described $63.5 million in additional funding for the CSS Improvement Plan, including $10.5 million in federal grants and $53 million in loans from the State Revolving Fund. Finally, the CIP budget includes additional funding for the Combined System Improvement Plan Update. According to recent (10 October 2008) correspondence from the Discharger,

"The Combined System Improvement Plan Update is an ongoing multiyear project comprised of two (2) phases. The City has recently awarded a contract for Phase 1 of this project. Phase 1 will calibrate and update the computer program used to

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model flow in the combined system. Phase 1 will also evaluate outflow reduction for six (6) planned mitigation improvement projects. Phase 2 of this project will use the new calibrated computer model (developed in Phase 1) to evaluate future construction projects in the combined system.

Update Effort:

The City's NPDES permit for the combined sewer system requires continuous improvements to the combined system to reduce outflows to City streets. The Combined Sewer System Improvement Plan Update Project (Project) is a program to achieve these reductions over time. There are two phases to this Project. Phase 1 will calibrate and update the computer model that is used to model flow in the combined system and Phase 1 will also evaluate outflow reduction for six (6) current mitigation improvement projects. Phase 2 of the Project will use the new calibrated model developed in Phase 1 to evaluate future construction projects in the combined system that will reduce combined sewer outflows.

On September 2, 2008 the City of Sacramento Department of Utilities awarded a contract in the amount of $476,274 to Metcalf & Eddy – Boyle/ AECOM for Phase 1 of the Project. The completion of Phase 1 will depend on the occurrence of significant rainfall events during the 2008-09 rain season. Assuming these events occur, it is anticipated that Phase 1 will be completed during the fall of 2009. If significant rainfall events do not occur, then the completion date for Phase 1 will extend beyond the 2009-2010 rain season. The City anticipates awarding a contract for Phase 2 after the completion of Phase 1. The following key tasks are included in the Phase 1 contract:

- *From December 2008 to February 2009, collect flow monitoring data throughout the combined system.*
- *Concurrent with flow monitoring, evaluate new hydrologic/hydraulic computer models (available from various vendors) and make a decision either to implement a new computer model or retain the existing older one.*
- *Calibrate and update the selected combined system model with the flow monitoring data, GIS base maps, new revised storm hydrology and new dry weather sewer flows. The new model will include future sewer projections from development growth for the next 20 years.*
- *Using the new calibrated model, evaluate the projected combined sewer outflow reduction for the six (6) current mitigation improvement projects being developed as part of the Long Term Control Plan."*

According to the Discharger, previous efforts to develop a RAMP were never completed. Instead, the CIP is now used to prioritize sewer improvement and development projects. Infrastructure rehabilitation and replacement projects are evaluated utilizing an asset management system that prioritizes projects based on a combination of their relative criticality and condition for both the combined and separate

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systems. The Discharger is developing a comprehensive condition assessment program based upon key factors including criticality, age, material, and Computerized Maintenance Management System (CMMS) history (trouble calls, maintenance repairs, etc.).

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

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

B. California Environmental Quality Act (CEQA)

This Order meets the requirements of CEQA as specified in the Finding contained at section II.E of this Order.

C. State and Federal Regulations, Policies, and Plans

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

   a. *Water Quality Control Plan, Fourth Edition (Revised October 2007), for the Sacramento and San Joaquin River Basins.* (Basin Plan)**.**

   b. *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan).

   The discharge from the Facility is considered an existing elevated temperature waste, as the temperature in the effluent is higher than the natural temperature of the Sacramento River. The specific water quality objectives/requirements for existing discharges to estuaries apply to discharges from the Facility (the Sacramento River within the Sacramento-San Joaquin Delta is considered an estuary for purposes of the thermal plan).

   c. *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (Bay-Delta Plan).

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

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

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

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

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

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 CSS is subject to portions of the storm water regulations.

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

9. **Combined Sewer Overflow (CSO) Control Policy**. On 11 April 1994, USEPA adopted the Combined Sewer Overflow (CSO) Control Policy (59 FR 18688-18698). The CSO Control Policy was recently incorporated into the federal CWA by the Wet Weather Water Quality Act of 2000 [House .Resolution (H.R.) 828] which is part of H.R. 4577, an omnibus funding bill. The CWA at Section 402(q)(1) now states: "…*Each permit…pursuant to this Act…for a discharge from a municipal combined storm and sanitary sewer shall conform to the CSO Control Policy*…" The CSO policy establishes a consistent national approach for controlling discharges from CSOs to the nation's water through the NPDES permit program. CSOs are defined as the discharge from the combined sewer system at a point prior to the POTW Treatment Plant (see Federal Register, Vol 59 No. 75, Tuesday, April 19, 1994, Section I.A.). A discharger's long-term CSO control plan includes the design and construction of additional facilities which constitute the CSO controls envisioned by the CSO Control Policy.

   The CSO Policy initiates a two-phased process with higher priority given to more environmentally sensitive areas. During the first phase, the Discharger is required to implement the nine minimum controls (NMCs) and develop a long-term control plan. NMCs constitute the technology-based requirements of the CWA as applied to combined sewer facilities: best practicable control technology currently available (BPT), best conventional pollutant control technology, (BCT), and best available technology economically achievable, (BAT) based on the permit writer's best professional judgment. These nine minimum controls can reduce the frequency of CSOs and reduce their effects on receiving water quality. During the second phase,

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the Discharger is required to implement a long-term CSO control plan and continue implementation of the NMCs. The long-term CSO control plan includes the design and construction of additional facilities which constitute the CSO controls envisioned by the CSO Control Policy. In addition, the Discharger is required to continue the implementation of the NMCs, properly operate and maintain the completed CSO controls in accordance with the operational plan, and continue to implement the post-construction monitoring program (e.g., CSO monitoring).

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

1. Under section 303(d) of the 1972 CWA, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 30 November 2006 USEPA gave final approval to California's 2006 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "…*those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources* (40 CFR Part 130, et seq.)." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment*." The listing for the Sacramento River (Delta Waterways - northern portion) includes: chlorpyrifos, DDT, diazinon, exotic species, Group A pesticides, mercury, PCBs (polychlorinated biphenyls), and unknown toxicity. Of these parameters, only chlorpyrifos and diazinon are listed based on urban runoff/storm sewer sources.

2. **Total Maximum Daily Loads (TMDLs)**. USEPA requires the Regional Water Board to develop TMDLs for each 303(d) listed pollutant and water body combination. In October 2007, an amendment to the Basin Plan was adopted for the control of diazinon and chlorpyrifos runoff into the Sacramento-San Joaquin Delta.

   The Sacramento-San Joaquin Delta Estuary (Delta) is impaired due to elevated levels of mercury in fish tissue. In February 2008, the Regional Water Board staff released a revised TMDL draft technical report and a draft Basin Plan Amendment (BPA) staff report. To date the TMDL has not yet been adopted by the Regional Water Board.

3. The 303(d) listings and TMDLs have been considered in the development of the Order. A pollutant-by-pollutant evaluation of each pollutant of concern is described in section VI.C.3. of this Fact Sheet.

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

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sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 *et seq.* (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:

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

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

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

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), 307 (Toxic and Pretreatment Effluent Standards), and 402 (National Pollutant Discharge Elimination System) of the CWA and amendments thereto are applicable to the discharge.

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

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Basin Plan at page **IV-17.00** contains an implementation policy, "*Policy for Application of Water Quality Objectives*", that specifies that the Regional Water Board "*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives*." This Policy complies with 40 CFR 122.44(d)(1). With respect to narrative objectives, the Regional Water Board must

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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 includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, discoloration, radionuclides, and tastes and odors. The narrative toxicity objective states: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*." (Basin Plan at III-8.00.) The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The narrative chemical constituents objective states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At a minimum, "…*water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)" in Title 22 of CCR.* The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs. 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*."

As described in more detail in Sections IV.B and IV.C below, the USEPA CSO Control Policy requires the implementation of Nine Minimum Controls and a Long-Term Control Plan as the means to comply with CWA technology- and water quality-based requirements.

A. Discharge Prohibitions

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, provided that the bypass does not cause violation of effluent and/or receiving water limitations. The exception to this Discharge Prohibition is discharges from Discharge Point Nos. 002, 003, 004, 005, 006, and 007 in accordance with Discharge Prohibitions III.D and III.E (as described in IV.A.2 and IV.A.3 below).

2. The discharge prohibition contained in the previous Order allowing discharges from CWTP Discharge Point No. 002 and/or 003 only if a flow of 60 mgd has been sent to the SRWTP has been removed. The delivery of 60 mgd of flow to SRWTP is

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dependent on the ability of SRWTP to accept the flow from the Discharger. The Order will, however, continue to require compliance with Nine Minimum Control #4 (maximize flow to the POTW).

3. The discharge prohibition contained in Section III.D.1 of this Order has been amended from the previous Order to require use of the storage capacity of the Pioneer Reservoir (28 million gallons, including the Pioneer Interceptor) and the CWTP (9.2 million gallons including the CWTP interceptor) prior to discharge.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with 40 CFR 125.3.

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

a. 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.

b. 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.

c. 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.

d. 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. CWA section 402(a)(1) and 40 CFR 125.3 authorize the use of best professional judgment (BPJ)

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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

USEPA establishes some technology-based requirements by issuing industry-wide effluent guidelines. For CSOs, no effluent guidelines have been promulgated for BPT, BCT, or BAT. In the absence of effluent guidelines, the permit writer must use Best Professional Judgment (BPJ) to determine the level of treatment that BPT, BCT, and BAT represent.

a. **Nine Minimum Controls (NMCs).** According to the USEPA CSO Control Policy, all permits for CSOs should require implementation of the NMCs as a minimum BAT/BCT established on a BPJ basis. Implementation of the NMCs will be required as special provisions in this Order. Therefore a discussion of implementation of NMCs by the Discharger to date, as well as the proposed NMC requirements contained in this Order is provided in Section VII.B.4 of this Fact Sheet.

b. **Effluent Limits to Monitor Performance**. Order Number 5-01-258 contained effluent limitations for total suspended solids that represent reasonable performance of CSS treatment facilities. This Order will continue to apply the same effluent limitations to monitor the performance of the Pioneer Reservoir and CWTP in removing solids prior to discharge to the Sacramento River.

Table F-3. Summary of Technology-based Effluent Limitations, Discharge Point Nos. 002, 003, and 006

Constituent	Units	Storm Year[1] Average	Storm Maximum	Storm Year[1] Median
Total Suspended Solids	mg/L	100[2,3]	--	--

1 1 October through 30 September
2 In addition, two consecutive samples shall not exceed 150 mg/L.
3 Pioneer Reservoir for flows of 250 mgd or less and all flows at the CWTP.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

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

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been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

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 sections 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. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

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a. Receiving Water and Beneficial Uses.

Beneficial uses applicable to the Sacramento River are as follows:

Table F-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
002, 003, 004, 005, 006, and 007	Sacramento River	Existing: Municipal and domestic supply (MUN); agricultural supply, including stock watering (AGR); industrial process (PROC) and service supply (IND); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater aquatic habitat (WARM), cold freshwater aquatic habitat (COLD); warm migration, cold migration (MIGR); warm spawning habitat(SPWN), wildlife habitat (WILD); and navigation (NAV).

3. Determining the Need for WQBELs

a. The State Implementation Policy (SIP) explicitly states that it is not applicable to CSOs. Therefore, a RPA was not performed for the CTR parameters. However, as described further below, the USEPA CSO Control Policy and related guidance suggests the eventual establishment of numeric effluent limitations would be necessary to ensure that CSOs achieve applicable water quality objectives.

b. USEPA's CSO Control Policy (59 FR 18688, 19 April 1994) states that "*CSO permittees … develop long-term CSO control plans which evaluate alternatives for attaining compliance with the CWA, including compliance with water quality standards and protection of designated uses*." It further states that, once LTCPs are completed, permittees will be responsible for implementing the plan's recommendations as soon as practicable.

The USEPA CSO Control Policy also provides that *"[d]evelopment of the long-term plan should be coordinated with the review and appropriate revision of water quality standards (WQS) and implementation procedures on CSO-impacted receiving waters to ensure that the long-term controls will be sufficient to meet water quality standards*" (59 FR 18694).

c. Long-term Control Plan.

The July 1995 Combined Sewer System Improvement Plan (including the 2002 amendments) constitutes the Discharger's LTCP. The Discharger's program is based on the presumption approach. This approach is defined in the CSO Control Policy as a "…program that meets any of the criteria listed below would be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the permitting authority determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas described above. These criteria are provided

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because data and modeling of wet weather events often do not give a clear picture of the level of CSO controls necessary to protect WQS [Water Quality Standards]".

The performance criteria for the presumption approach option selected by the Discharger specifies the elimination or the capture for treatment of no less than 85 percent by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis. In addition, CSOs remaining after implementation of the NMCs and that is captured for treatment should receive a minimum of:

- Primary clarification (removal of floatables and settleable solids may be achieved by any combination-of treatment technologies or methods that are shown to be equivalent to primary clarification.);
- Solids and floatables disposal; and
- Disinfection of effluent, if necessary, to meet WQS, protect designated uses and protect human health, including removal of harmful disinfection chemical residuals, where necessary."

The Discharger's LTCP generally exceeds the specifications of the CSO Control Policy's presumption approach. The majority of the time the Discharger captures and provides treatment for up to 100 percent of the combined sewer flows rather than the 85 percent (there have been infrequent instances where small volumes of untreated overflows have occurred from Discharge Point Nos. 004, 005, and 007). Therefore, almost all CSOs that occur from the Facility receives treatment (within the storage/transports) consisting of removal of floatable and settleable solids.

In addition, the Discharger previously (1995) submitted a water quality assessment of remaining CSOs. The assessment indicated that water quality impacts and beneficial use impairments to the Sacramento River were negligible due to CSOs. Since that assessment, the volume of treated and untreated discharges has been reduced even further, providing additional protection of beneficial uses.

This Order will require continued implementation of its LTCP as it relates to the capture and treatment of a minimum of 85 percent of the combined sewer flows. However, there are several issues with the Discharger's development and implementation of its LTCP that also need to be addressed in the Order as it relates to the LTCP. First is the slow pace of CSS rehabilitation and replacement work such that the 1995 interim and final LTCP goals have not yet been achieved. Second, the LTCP goals are focused on the reduction of outflows from the CSS, and most efforts are focused on achieving those goals. Since 1995, the Discharger's has not evaluated whether its implemented LTCP projects under the presumption approach are ensuring continued compliance with water quality standards or are adequately protecting designated uses. Third is the need for

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improving procedures for tracking and documenting LTCP progress. Each of these issues is described further below.

i. CSS Rehabilitation and Replacement Efforts

With respect to achievement of 1995 Interim goals for reduction of CSS outflows and flooding consistent with the 1995 LTCP interim goals, the Discharger has been focusing on providing peak flow storage and relief for six priority locations throughout the CSS that were prone to flooding and outflows. As described in the USEPA CEI report, and as described in the Discharger's May 2003 performance update, the interim goals have not yet been achieved. Although the Discharger noted reductions in system flooding due to improvement and rehabilitation projects undertaken, the SWMM model projections performed in 2003 still predicted outflows and street flooding throughout the system in the event of a 10-year storm event, even in the six priority areas. The Discharger currently plans to calibrate and update the computer model that is used to model flow in the CSS and Phase 1 will also evaluate outflow reduction in the six priority areas. In September 2008, the Discharger awarded a contract for implementing Phase I of this two-phase project. This effort is planned for completion in the fall of 2009 (unless significant rainfall events do not occur, then the completion date will extend beyond the 2009-2010 rain season). Phase 2 of the project will utilize the new calibrated model to evaluate future construction projects in the CSS that will reduce combined sewer outflows.

In its 2005 CEI report, USEPA noted a general lack of timely rehabilitation and replacement of aging and deteriorated CSS infrastructure. The report cites the fact that the Discharger is rehabilitating and replacing sewer pipe within the CSS at a rate of approximately 0.4% per year. Attachment H summarizes the LTCP updates provided by the Discharger, as required under Order No. 5-01-258, during the term of the existing Order. As shown in Attachment H, it appears as if a number of projects scheduled for completion span several fiscal years. The Discharger in its response to the USEPA CEI report noted that they are only required by Order No. 5-01-258 to submit a list of projects that are scheduled for completion in the next 12 months; the fact that some projects are delayed reflects "…the reality that large infrastructure projects in an urbanized area may sometimes be delayed, due to various complex issues that need to be addressed and resolved for construction to begin."

In 2005 the Discharger had initiated a sewer infrastructure Replacement and Management Program (RAMP) that was scheduled for completion in 2007, but was never completed. The Discharger now uses the CIP program and an asset management approach to prioritize projects based on a combination of their relative criticality and condition. This asset management approach addresses the entire collection system managed by the Discharger (both the combined and separate systems). Following is the description provided by the Discharger regarding the asset management approach:

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"Infrastructure rehabilitation and replacement projects are evaluated utilizing an asset management approach by prioritizing projects based on a combination of their relative criticality and condition for both the combined and separated systems. This approach ranks rehabilitation and replacement projects such that highly critical portions of the system are replaced prior to failing while less critical facilities are replaced as they approach failure or fail. Rehabilitation and replacement CIP projects are prioritized by a ranking score that multiplies the criticality score by the condition score.

Criticality:

The Department's sewer assets are considered critical should a disruption of service substantially impact the health, safety, security and economic well-being of the City. The level of criticality is a relative measure of the consequence of failure.

Utilizing a matrix rating system based on six organizational objectives, the Department has developed a ranking of critical sewer infrastructure with a score from 1 to 10 with a score of 1 being "negligible" and a score of 10 being "catastrophic". The scoring for criticality is averaged amongst six categories for a final score. The areas of the sewer infrastructure that are rated most critical are areas that will suffer the highest consequence due to catastrophic failure.

Condition Assessment:

Condition assessment of assets is the foundation of asset management decision making.

Since the majority of linear assets (pipelines) are inaccessible, condition assessment is extremely complicated. Pipeline age and material type are good indicators of the condition; however, it is usually a combination of several factors that causes failures and influences maintenance decisions. This complicates the decision making process of diagnosing failures, learning about deterioration mechanisms and measuring condition.

The condition ranking of sewer assets is scored from 1 to 5 with a score of 1 being "excellent" and a score of 5 being "failed". Infrastructure is deemed to be "failed" if the identified defect(s) are substantial and problematic enough that repairs are not likely to be practical or feasible. These projects are often identified by the number or severity of trouble calls or alarms responded to by the Department."

Because the asset management approach is used for both the combined and separate systems, and the fact that "…*the Department's sewer assets are considered critical should a disruption of service substantially impact the health, safety, security and economic well-being of the City*" (emphasis

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added), it is uncertain how the LTCP goals and projects are addressed in the Discharger's asset management approach.

Based on the above, it is uncertain what the schedule is for the Discharger to achieve their interim and final LTCP goals. The Order will require, as part of the LTCP update requirement, that the Discharger specifically provide a schedule for achieving the LTCP goals, and identify the mechanisms for ensuring that projects required for achieving those goals within the schedule will be prioritized to minimize or eliminate any potential delays for implementation and completion.

ii. Protection of Receiving Water Quality from CSOs

The CSO Control Policy presumes that compliance with performance criteria generally will be sufficient to meet applicable water quality objectives. As described above, the Discharger has selected the presumption approach, and the Discharger's LTCP exceeds the performance specifications. However, selection of the presumption approach does not relieve the Discharger from the need to develop and implement a post-construction compliance monitoring program for the remaining CSOs to verify compliance with water quality standards and protection of designated uses. If the monitoring program indicates nonattainment with water quality objectives due to CSOs or CSS outflows, the Discharger may need to implement a greater level of control.

The following tables summarize the CSO discharges that were reported during the term of the previous Order.

Table F-5. Number of CSO Discharges Reported

Storm Year	Number of Discharge Events from CSO Discharge Points						Total No. System Events[1]
	002	003	004	005	006	007	
10/01 - 9/02	0	0	0	0	2	0	2
10/02 – 9/03	1	0	0	0	4	0	4
10/03 – 9/04	4	0	0	0	4	0	4
10/04 – 9/05	2	0	0	0	2	0	2
10/05 – 9/06	8	0	0	0	8	0	8
10/06 - 9/07	0	0	0	0	0	0	0
10/07 - 9/08	2	0	1[2]	0	3	0	3

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[1] The total number of system events represents the number of distinct storm events that resulted in a discharge from one or more of the authorized discharge points (Discharge Point Nos. 002, 003, 004, 005, 006, and 007).
[2] This discharge represents an untreated event that occurred on 4 January 2008; representing a total flow of 11.25 million gallons.

Table F-6. Detailed Summary of Reported CSO Discharges as Reported in SMRs

	Discharge Point No. 002 (CWTP)				Discharge Point No. 006 (Pioneer Reservoir)			
Date	Peak Flow (mgd)	Avg. Flow (mgd)	Total Flow Treated (mg)	Rain Fall Total (Inches)	Peak Flow (mgd)	Avg. Flow (mgd)	Total Flow Treated (mg)	Rain Fall Total (Inches)
01/02/02[2]	ND	ND	ND	ND	146	130.0	14.4	1.01
05/20/02[2]	ND	ND	ND	ND	277	189.5	72.8	1.61
11/07/02	ND	ND	ND	ND	350.0 or 308[1,3]	308[1]	35.3[1]	1.09[1]
12/14/02	ND	ND	ND	ND	300 or 350[1,3]	182[1]	20.0	1.08[1]
12/16/02	ND	ND	ND	ND	350 or 265[1,3]	162[1]	35.5[1]	0.77[1]
03/15/03	130[1]	28.5[1]	5.4	0.45	367.0[1]	212[1]	35.3[1]	1.22[1]
12/29/03	130[1]	113.0[1]	14.2	1.06	230[1]	207[1]	25.8[1]	1.06[1]
01/01/04	130[1]	64.0	7.2	1.08	253.0 or 260[1,3]	227[1]	25.3[1]	1.08
02/18/04	130[1]	108.6	6.5[1]	1.55[1]	250.0[1]	194[1]	260.0[1]	1.55[1]
02/25/04	133[1]	123.8[1]	21.7	1.32[1]	409.0[1]	284[1]	59.2[1]	1.32[1]
10/26/04	118	118.0	5.3	1.01	232.0	176.0	9.2	1.01
12/30/04	130[1]	73[1]	26.8	1.34	207	149	27.5	1.34
12/01/05	ND	ND	ND	ND	117.0	86.0	8.1	1.07
12/18/05	120[1]	120.0	18.3	2.13	270.0 or 272[1,3]	186.3[1]	53.3[1]	1.29[1]
12/26/05	ND	ND	ND	ND	109.0	42.71	2.2	0.45
12/31/05[4]	130	130.0	65.0	4.05	500.0	193.0	193.0	4.05
01/01/06[4]	ND	ND	ND	ND	270.0	74.9	75.0	0.65
01/02/06[4]	130	98.0	23.7	0.97	382.0[1]	117.0	117.0	0.97[1]
01/03/06[4]	ND	ND	ND	ND	63.0 or 82[1,3]	43.0[1]	32.0	0.01
01/04/06[4]	ND	ND	ND	ND	35.0	24.3[1]	7.7	0
02/27/06	90	51.5[1]	9.3	1.14	371.0[1]	180.0	15.0	1.14
03/06/06[2]	ND	ND	ND	ND	132	106.3	31	0.54
03/25/06[2]	130	123.3	8.9	1.04	260	192	27.5	0.83
04/03/06[2]	ND	ND	ND	ND	267	194	64.2	0.98
12/06/07[2]	130	116.7	16.3	2.02	425	236.5	61.0	2.02
01/04/08[2]	130	130	27.1	1.96	405	259.0	82.8	1.96
01/22/08[2]	ND	ND	ND	ND	310	270.0	41.6	1.50

ND – No Discharge
[1] Data submitted with the permit application was different than the data shown that was taken from SMR data.
[2] Data was taken from the permit application.
[3] The reported data within the SMR was inconsistent; both reported values are provided.
[4] Represents discharges for a single event that occurred over the course of 5 days.

Monitoring was required in Order 5-01-258 to determine compliance with effluent limitations for TSS, settable solids, chlorine residual and fecal

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coliform for discharges from the CWTP and Pioneer Reservoir. Table F-2 summarized the monitoring data for the regulated parameters. As shown in Table F-2, periodic exceedances of effluent limitations were reported.

In the early 1990s, the Discharger conducted several water quality monitoring programs to assess the potential impact of CSOs on the water quality of the Sacramento River. In summary, the Discharger found that the CSO discharges did not result in significant impairment of the quality of the Sacramento River. Although exceedances of water quality objectives were noted for copper, lead, zinc, silver, and cadmium, these exceedances occurred both upstream and downstream of the CSOs (i.e., the CSOs themselves did not cause an exceedance of water quality objectives). Generally, the frequency of CSO discharges has decreased since these assessments in the early 1990s.

Order No. 5-01-258 required monitoring discharges from the Pioneer Reservoir and the CWTP for a select group of constituents (dissolved copper, lead, and zinc, and the pesticides diazinon, chlorpyrifos, and diuron) to evaluate the effectiveness of the Discharger's storm water pollution prevention program to control these constituents. The Table below provides a summary of the results.

Table F-7. Summary of Toxic Pollutant Monitoring Results for the City of Sacramento CSO Discharges (For Storm Years 2002 through 2008)

Pollutant	No. Data Points	No. of Reported Non Detects or Below Detection Limits	Minimum Reported Value (µg/L)	Maximum Reported Value (µg/L)	Most Stringent Objective (µg/L)[1]
Discharge Point No. 002 (CWTP)					
Copper, Dissolved	14	9	<10	99	5.0
Lead, Dissolved	14	14	<5	<5	1.8
Zinc, Dissolved	14	0	44	360	65.7
Diazinon	14	14	ND (0.25)[2]	ND (0.25)[2]	0.10
Chlorpyriphos	14	14	ND (1.0)[2]	ND (1.0)[2]	0.015
Diuron	14	12	ND (1.0)[2]	4.1	[3]
Discharge Point No. 006 (Pioneer Reservoir)					
Copper, Dissolved	27	22	<10	22	5.0
Lead, Dissolved	27	26	<5	5.1	1.8
Zinc, Dissolved	26	0	22	200	65.7
Diazinon	27	27	ND (0.25)[2]	ND (0.25)[2]	0.10
Chlorpyriphos	27	27	ND (0.25)[2]	ND (1.0)[2]	0.015
Diuron	26	24	ND (0.5)[2]	1.8	[3]
Discharge Point Nos. 004 and 005 (Flow Control Structure)					
Copper, Dissolved	2	1	<10	13	5.0
Lead, Dissolved	2	2	<5	<5	1.8
Zinc, Dissolved	2	0	36	55	65.7
Diazinon	2	2	ND (0.25)[2]	ND (0.46)[2]	0.10
Chlorpyriphos	2	2	ND (0.18)[2]	ND (1.0)[2]	0.015
Diuron	2	2	ND (1.0)[2]	ND (2.4)[2]	[3]

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[1] The most stringent applicable water quality objective from the Basin Plan and CTR. For hardness dependent criteria, a hardness of 50 mg/L as $CaCO_3$ was assumed.
[2] ND - Reported as non-detect. Value in parentheses indicates reporting limit as reported by the Discharger.
[3] According to the Basin Plan, total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods. Order No. 5-01-258 required that the analytical method for the pesticides should have a detection level no greater than 100 ng/L.

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Based on the above, it is uncertain whether the LTCP, after implementation of the NMCs and capture and treatment in the CWTP and Pioneer Reservoir, will continue to provide the level of treatment necessary to meet existing water quality objectives. This Order will require the Discharger to develop and implement a CSO water quality assessment (see Section VII.B.2.a below for a more detailed description of the assessment requirements) that will evaluate whether additional controls will be required and revisions to the Discharger's Long-Term Control Plan and/or applicable water quality objectives will be necessary to protect receiving water quality.

iii. Improving Procedures for Tracking and Documenting LTCP Implementation

As described earlier, it is uncertain when CSS improvement projects are to be completed by the Discharger, or how well the Discharger is doing in relation to meeting the LTCP interim and final goals for reducing CSS outflows and street flooding. The current annual LTCP updates provided by the Discharger in accordance with the Order 5-01-258, only report the rehabilitation and improvement projects planned for the coming year. The annual LTCP updates do not however, provide information to track progress on implementing current projects or when projects are actually completed. In its CEI report, USEPA suggested changes to the annual LTCP updates to include a description of work completed during the past year, as well as maintenance of a running list of LTCP projects showing the proposed completion dates, any extensions to the completion dates, and the actual completion dates.

This Order will require the preparation and submission of annual LTCP updates to more closely track LTCP implementation by the Discharger.

d. Specific Parameters of Concern

The Order 5-01-258 included effluent limitations for chlorine residual, pathogens (fecal coliforms), pH, settleable solids, and temperature based on water quality objectives contained in the Basin Plan. Based on the expected characteristics of CSOs (containing minimally treated sewage combined with storm water), and the Facility operations (involving chlorination), the Regional Water Board will carry over the effluent limitations from Order 5-01-258.

i. Chlorine Residual

USEPA developed National Ambient Water Quality Criteria (NAWQC) for protection of freshwater aquatic life for chlorine residual. The recommended 4-day average (chronic) and 1-hour average (acute) criteria for chlorine residual are 0.011 mg/L and 0.019 mg/L, respectively. These criteria are protective of the Basin Plan's narrative toxicity objective.

The Discharger uses chlorine (sodium hypochlorite) for disinfection, which is extremely toxic to aquatic organisms. The Discharger uses a sulfur bisulfate process to dechlorinate the effluent prior to discharge to the Sacramento River.

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. Consistent with the existing order and due to the infrequent and short-term nature of CSO discharges from the Facility, only protection for acute impacts are considered necessary. Therefore only a maximum daily effluent limitation will be established based on the 1-hour average acute NAWQC for chlorine residual (0.019 mg/L), which implements the Basin Plan's narrative toxicity objective for protection of aquatic life. These effluent limitations will apply to Discharge Point Nos. 002 (CWTP) and 006 (Pioneer Reservoir).

Analysis of the effluent data shows that the MEC of 1.8 mg/L, for a sample taken in January 2006, was the only detected value for chlorine since 2003. According to the January 2006 SMR, operational problems at SRWTP caused the Facility to treat and discharge longer than usual. As a result, the Pioneer Reservoir system ran out of dechlorination agent for approximately 15 minutes, resulting in the detected value. In light of the fact that the Facility is designed to dechlorinate, the Regional Water Board concludes that immediate compliance with the effluent limitations is therefore feasible.

ii. Pathogens

The Regional Water Board, when developing NPDES permits, implements recommendations by DPH for the appropriate disinfection requirements for the protection of MUN, REC-1 and AGR.

In 1987, the Department of Health Services (DHS) (now the Department of Public Health, or DPH) issued the "Uniform Guidelines for the Disinfection of Wastewater" (Uniform Guidelines), which included recommendations to the Regional Water Board regarding the appropriate level of disinfection for wastewater discharges to surface waters. In a letter to the Regional Water Board dated 8 April 1999, DPH indicated it would consider wastewater discharged to water bodies with identified beneficial uses of irrigation or

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contact recreation and where the wastewater receives dilution of more than 20:1 to be adequately disinfected if the effluent coliform concentration does not exceed 23 MPN/100 mL as a 7-day median and if the effluent coliform concentration does not exceed 240 MPN/100 mL more than once in any 30 day period. In a subsequent letter dated 1 July 2003, DPH states that a *filtered and disinfected effluent should be required in situations where critical beneficial uses (i.e. food crop irrigation or body contact recreation) are made of the receiving waters unless a 20:1 dilution ratio is available. In these circumstances, a secondary, 23 MPN discharge is acceptable.*" DPH considers such discharges to be essentially pathogen-free.

There are no numeric water quality objectives for pathogens applicable to the receiving water for the protection of MUN. The applicable narrative water quality objective that applies to surface waters is the bacteria objective in the Basin Plan, which states, "*In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.*"

Municipal and domestic supply, agricultural irrigation, and body contact water recreation are beneficial uses of the Sacramento River. In an effort to control the discharge of coliform bacteria in CSO discharges, the previous Order included effluent limitations for fecal coliform bacteria at 200 MPN/100 mL for a storm year median, and no higher than 1,000 MPN/100 mL in three consecutive samples. The previous Order also required that the Discharger continuously operate the chlorination equipment when discharging to the Sacramento River. As was shown in Table F-2, the highest storm year median was reported at 330 MPN/100 mL.

Based on a review of data submitted by the Discharger and the period of record for the United States Geological Survey monitoring stations on the Sacramento River, and the fact that CSO discharges typically occur during the rainy season, 20:1 (river flow to design effluent flow) dilution is always available.

Because CSO discharges typically occur for relatively short durations and only during extreme storm events, it is unlikely that recreational activities will occur concurrently with the CSO discharges. However, protection of the MUN use will be provided by carrying over the existing effluent limitations and discharge requirements to control the discharge of coliform bacteria. These coliform limits are imposed to protect the beneficial uses of the receiving water. These effluent limitations will apply to the Pioneer Reservoir and CWTP discharge points.

Except for one instance in January 2004, the Facility has consistently achieved very low levels of fecal coliform in the effluent (the majority of samples were reported as <2 MPN/100 mL).

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iii. pH

The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the "…*pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses*."

Effluent limitations for pH of 6.5 as an instantaneous minimum and 8.5 as an instantaneous maximum are carried over from Order No. 5-01-258 and included in this Order based on protection of the Basin Plan objectives for pH.

Analysis of the effluent data shows that the reported pH levels are within the applicable water quality objectives. The Regional Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iv. Settleable Solids

For inland surface waters, the Basin Plan states that *"…[w]ater shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses*." This Order carries over from Order No. 5-01-258 the maximum daily effluent limitation for settleable solids to ensure that the Pioneer Reservoir and CWTP treatment works operate in accordance with design capabilities. Because the amount of settleable solids is measured in terms of volume per volume without a mass component, it is impracticable to calculate mass limitations for inclusion in this Order.

Analysis of the effluent data shows that the reported settleable solids levels are within the applicable water quality objectives. The Regional Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

v. Temperature

The Thermal Plan requires that, "*The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F*." CSO discharges are considered an existing elevated temperature waste, as the temperature of the discharge is higher than the natural temperature of the Sacramento River.

To ensure compliance with the Thermal Plan, the effluent limitations for temperature from Order No. 5-01-258 are carried over to this Order. .

Analysis of the effluent data shows that the reported temperature levels are within the applicable water quality objectives. The Regional Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

e. Other Parameters of Concern

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Monitoring data provided by the Discharger during the previous permit term for several other parameters were evaluated in relation to the potential for regulation under this Order.

i. Persistent Chlorinated Hydrocarbon Pesticides

The Basin Plan requires that no individual pesticides shall be present in concentrations that adversely affect beneficial uses; discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses; persistent chlorinated hydrocarbon pesticides shall not be present in the water column at detectable concentrations; and pesticide concentrations shall not exceed those allowable by applicable antidegradation policies.

Order No. 5-01-258 required monitoring for diuron, and since February 2004, diuron has not been detected in any of the CSO discharges. Prior to February 2004, diuron was periodically detected in the effluent from the CWTP (Discharge Point No. 002), the Sump 2/2A Flow Control Structure (Discharge Point Nos. 004 and 005), and Pioneer Reservoir (Discharge Point No. 006).

Diuron is a commonly used and applied herbicide; it is currently on the California groundwater protection list, except for when it is contained in products with levels less than 7 percent and when applied to foliage.

Due to the uncertainty of the exact source(s) of diuron, the existing program being implemented by the Discharger to reduce pollutants in stormwater (see below), and the fact that it has not been detected since 2004, no effluent limitations for diuron are included in this Order.

The Discharger, as part of their Public Outreach Program component of their Stormwater Quality Improvement Plan (as required under Municipal Separate Storm Sewer System Order R5-2008-0142), implements a variety of educational stormwater and urban runoff outreach programs. These programs are designed in part to reduce to the maximum extent practicable, pollutants in stormwater discharges associated with the application of pesticides, herbicides, and fertilizer. As these programs are implemented City-wide, the programs should also assist in reducing the likely presence of diuron when CSO discharges occur.

ii. Diazinon and Chlorpyrifos

The Regional Water Board recently completed a TMDL for diazinon and chlorpyrifos in the Sacramento-San Joaquin Delta and amended the Basin Plan to include diazinon and chlorpyrifos waste load allocations and water quality objectives on 10 October 2007. The amendment provides that: …"*The Waste Load Allocations (WLA's) for all NPDES-permitted dischargers… shall not exceed the sum (S) of one (1) as defined below.*

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$$S = \frac{C_D}{WQO_D} + \frac{C_C}{WQO_C} \leq 1.0$$

where

C_D = diazinon concentration in µg/L of point source discharge for the WLA.
C_C = chlorpyrifos concentration in µg/L of point source discharge for the WLA.
WQO_D = acute or chronic diazinon water quality objective in µg/L.
WQO_C = acute or chronic chlorpyrifos water quality objective in µg/L.

Available samples collected within the applicable averaging period for the water quality objective will be used to determine compliance with the allocations and loading capacity. For purposes of calculating the sum (S) above, analytical results that are reported as "non-detectable" concentrations are considered to be zero."

Water quality objectives for diazinon and chlorpyrifos to be used in the additive toxicity WLA were included in the amendment and are incorporated into Table III-2A of the Basin Plan as shown in the table below.

Table F-8. Site-Specific Water Quality Objectives for Diazinon and Chlorpyrifos

Pesticide	Maximum Concentration and Averaging Period	Applicable Water Bodies
Chlorpyrifos	0.025 µg/L; 1-hour average (acute) 0.015 µg/L; 4-day average (chronic) Not to be exceeded more than once in a 3 year period.	San Joaquin River from Mendota Dam to Vernalis (Reaches include Mendota Dam to Sack Dam (70), Sack Dam to Mouth of Merced River (71), Mouth of Merced River to Vernalis (83)), Delta Waterways listed in Appendix 42
Diazinon	0.16 µg/L; 1-hour average (acute) 0.10 µg/L; 4-day average (chronic) Not to be exceeded more than once in a 3 year period.	

The Basin Plan also states that: *"[c]ompliance with water quality objectives, waste load allocations, and load allocations for diazinon in the Delta Waterways is required by December 1, 2011.*"

As shown in Table F-8 above, the MEC for diazinon in the effluent from the CWTP (Discharge Point No. 002), the Sump 2/2A Flow Control Structure (Discharge Point Nos. 004 and 005), and Pioneer Reservoir (Discharge Point No. 006) all exceeded the applicable water quality objective for diazinon. However, the MECs were all observed in January/February 2000; since then all values for diazinon were reported as non-detect (at a reporting limit of 0.25 µg/L).

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Results of effluent monitoring conducted by the Discharger using USEPA Method 507, from January 2000 through January 2008, indicate concentrations of chlorpyrifos have been reported as non-detect at the analytical reporting limit of 1.0 µg/L.

Diazinon and chlorpyrifos can now be analyzed using USEPA Method 8141A,USEPAMethod 625M or an equivalent GC/MS method to reporting limits of 0.020 µg/L and 0.010 µg/L, respectively. Since diazinon has not been detected in the effluent since 2000, and chlorpyrifos has not been detected, this Order does not include effluent limitations for these pollutants. However, this Order includes new monitoring requirements that specify a lower reporting limit sufficient for comparison with the applicable diazinon and chlorpyrifos water quality objectives and for use in the additive toxicity calculation. If diazinon and/or chlorpyrifos are detected in the effluent at a level with the reasonable potential to exceed the water quality objectives, this Order may be reopened to include effluent limitations for diazinon and chlorpyrifos.

The Discharger, as part of their Public Outreach Program component of their Stormwater Quality Improvement Plan (as required under Municipal Separate Storm Sewer System Order R5-2008-0142), implements a variety of educational stormwater and urban runoff outreach programs. These programs are designed in part to reduce to the maximum extent practicable, pollutants in stormwater discharges associated with the application of pesticides, herbicides, and fertilizer. As these programs are implemented City-wide, the programs should also assist in reducing the likely presence of diazinon and chlorpyrifos when CSO discharges occur.

iii. Mercury

The current NAWQC for protection of freshwater aquatic life, continuous concentration, for mercury is 0.77 µg/L (30-day average, chronic criteria). The CTR contains a human health criterion (based on a threshold dose level causing neurological effects in infants) of 0.050 µg/L for waters from which both water and aquatic organisms are consumed. Both values are controversial and subject to change. In 40 CFR Part 131, USEPA acknowledges that the human health criteria may not be protective of some aquatic or endangered species and that "…*more stringent mercury limits may be determined and implemented through use of the State's narrative criterion.*" In the CTR, USEPA reserved the mercury criteria for freshwater and aquatic life and may adopt new criteria at a later date.

Mercury bioaccumulates in fish tissue and, therefore, the discharge of mercury to the receiving water may contribute to exceedances of the narrative toxicity objective and impact beneficial uses. The Sacramento River (Delta Waterways - northern portion) has been listed as an impaired water body pursuant to CWA section 303(d) because of mercury and the discharge must not cause or contribute to increased mercury levels.

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In February 2008, the Regional Water Board proposed Basin Plan amendments implementing the TMDL for methylmercury in the Delta. The 2008 proposed Basin Pan amendments include a concentration-based effluent limitation of 0.24 ng/L and a wasteload allocation of 0.24 grams per year that would apply to the Discharger. Based on the results of 10 samples provided by the Discharger to the Regional Water Board for the period December 2004 to March 2006, the Regional Water Board is currently re-evaluating the allocations to be applied to the Discharger. Because the TMDL and related Basin Plan amendment are not yet final, the proposed effluent limitation and wasteload allocation will not be applied in this Order. Due to the continued concerns related to mercury discharges in the Delta Waterways, and in an effort to continue to provide data to the Regional Water Board for use in evaluating sources, this Order includes new effluent monitoring requirements for mercury and methylmercury.

4. WQBEL Calculations

This Order includes WQBELs for chlorine residual, fecal coliforms, pH, settleable solids, and temperature. WQBELs for chlorine residual were based on the NAWQC and applied directly as effluent limitations. The WQBELs for fecal coliform were carried over from the previous Order. The WQBELs for pH were based on Basin Plan objectives and applied directly as effluent limitations. The WQBELs for settleable solids were based on Basin Plan narrative objectives and applied as a maximum for each storm event. The WQBELs for temperature were based on the Thermal Plan and applied directly as effluent limitations.

5. Whole Effluent Toxicity (WET)

The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at page III-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.*"

No WET data exists for any of the CSO discharges from the Facility. Therefore, it is uncertain whether reasonable potential exists to exceed the Basin Plan narrative toxicity objective. Also due to the short-term, periodic nature of the discharges, the Regional Water Board is primarily concerned with the potential short-term, acute,

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toxicity in the CSO discharges. As part of the CSO Water Quality Assessment required in Section VI.C.2.a. of the Order, the Discharger will propose and implement a monitoring plan that will include an appropriate schedule for WET monitoring to assess the potential for the CSO discharges to exceed the narrative toxicity objective.

D. Final Effluent Limitations

The following table summarizes the final effluent limitations that will apply to the CSO discharges from the Facility. These effluent limitations will only apply to Discharge Point Nos. 002, 003 and 006, as these discharge points represent the effluent from the Pioneer Reservoir (006) and CWTP (002 and 003) CSO treatment systems.

Table F-9. Summary of Final Effluent Limitations for CSO Discharges from Discharge Point Nos. 002, 003, and 006

Constituent	Units	Storm Year[1] Average	Storm Maximum	Storm Year[1] Median	Basis[2]
Discharge Point Nos. 002, 003, and 006					
Total Suspended Solids	mg/L	100[3,4]	--	--	EP/BPJ
Settleable Solids	ml/L	--	1.0	--	EP
Chlorine Residual[5]	mg/L	--	0.02	--	NAWQC
Fecal Coliform Organisms	MPN/100 mL	--	--	200[6]	EP/DPH
pH	standard units	--	[7]	--	EP/BP
Temperature	°F	--	[8]	--	EP/BP/TP

1 1 October through 30 September
2 EP – Based on existing permit.
BP – Based on water quality objectives contained in the Basin Plan.
NAWQC – Based on USEPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
DPH – Based on recommendations from the California Department of Public Health.
3 In addition, two consecutive samples shall not exceed 150 mg/L.
4 Pioneer Reservoir for flows of 250 mgd or less and all flows at the CWTP.
5 The Discharger shall continuously operate the chlorination equipment when discharging to the Sacramento River.
6 In addition, no three consecutive samples shall exceed 1,000 MPN/100 mL.
7 The discharge shall not have a pH less than 6.5 nor greater than 8.5.
8 The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20°F.

1. Mass-based Effluent Limitations

40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. 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., NAWQC) and mass limitations are not necessary to protect the beneficial uses of the receiving water. Due to the intermittent and infrequent nature of the discharge, mass-based effluent limitations have not been developed.

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2. Averaging Periods for Effluent Limitations

40 CFR 122.45 (d) requires maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works unless impracticable. Due to the periodic and short-term nature of CSO discharges from the CSS, the application of average monthly effluent limitations is not considered necessary; effluent limitations need to be protective when discharges themselves occur. As all effluent limitations except for TSS are based on application of water quality objectives at end-of-pipe, they should be protective of receiving water quality. The averaging period for total coliform organisms is based on DPH recommendations for protection of the MUN beneficial use.

3. Satisfaction of Anti-Backsliding Requirements

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

4. Satisfaction of Antidegradation Policy

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. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on TSS. The WQBELs consist of restrictions on chlorine residual, pathogens (fecal coliform), pH, and temperature. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

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E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Reclamation Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

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

A. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that "[t]*he numerical and narrative water quality objectives define the least stringent standards that the Regional 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 ammonia, 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, temperature, toxicity, and turbidity.

B. Groundwater – Not Applicable

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

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Reporting Program (Attachment E) of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for the Facility.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess the performance of the Pioneer Reservoir and CWTP treatment systems. The monitoring frequencies for flow, total suspended solids and settleable solids (once per discharge event) have been retained from Order No. 5-01-258.

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. Monitoring for those pollutants expected to be present in discharges from Discharge Point Nos. 002 (Monitoring Location EFF-002), 003 (Monitoring Location EFF-003), and 006 (Monitoring Location EFF-006) will be required as shown in the proposed MRP (Attachment E). To determine compliance with effluent limitations, the proposed monitoring plan carries forward monitoring requirements (grab samples during each discharge event) for chlorine residual, fecal coliform, temperature, pH, settleable solids, and total suspended solids from Order No. 5-01-258. Also consistent with Order No. 5-01-258, flow is required to be monitored continuously.

3. Regular monitoring for diazinon and chlorpyrifos in discharges from Discharge Point Nos. 002 (Monitoring Location EFF-002), 003 (Monitoring Location EFF-003), and 006 (Monitoring Location EFF-006) will be required to collect additional data to determine if a reasonable potential exists to exceed water quality standards as specified in the applicable TMDL. Grab samples once per discharge event will be required.

   Results of effluent monitoring conducted by the Discharger indicate reported detection levels of 0.25 µg/L for diazinon and 1.0 µg/L for chlorpyrifos, which are greater than the applicable water quality objectives (0.10 µg/L for diazinon and 0.015 µg/L for chlorpyrifos). This Order specifies a lower reporting limit sufficient for comparison with the applicable diazinon and chlorpyrifos TMDL wasteload allocations. Diazinon and chlorpyrifos can now be analyzed using USEPA Method 8141A, USEPA Method 625M or equivalent GC/MS method to reporting limits of 0.020 µg/L and 0.010 µg/L, respectively.

4. Order No. 5-01-258 also established monitoring requirements for copper, lead, and zinc in discharges from Discharge Point Nos. 002 (Monitoring Location EFF-002), 003 (Monitoring Location EFF-003), and 006 (Monitoring Location EFF-006). These

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specific monitoring requirements have been removed from the Monitoring and Reporting Program. As part of the CSO Program Assessment required in section VI.C.2.a, the Discharger will propose a monitoring program plan. This monitoring program will address the CTR pollutants (including copper, lead and zinc).

5. The Sacramento – San Joaquin Delta is on the 303(d) list for mercury. The Regional Water Board proposed a TMDL for methylmercury in 2008 applicable to this Discharger, and is currently re-evaluating the allocations in preparation for establishing the final TMDL. Therefore, this Order establishes monitoring in discharges from Discharge Point Nos. 002 (Monitoring Location EFF-002), 003 (Monitoring Location EFF-003), and 006 (Monitoring Location EFF-006) during each discharge for total mercury and methylmercury in order to collect data on the presence of mercury in the effluent.

6. Although discharges from Discharge Point Nos. 004, 005 and 007 rarely occur, this Order requires monitoring when a discharge does occur for several indicator parameters. This data will be used to assess the potential impact(s) to the receiving water when a CSO discharge does occur from any of these discharge points.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** As part of the CSS Water Quality Assessment required in section VI.C.2.a, the Discharger will propose a monitoring plan that will include an appropriate schedule for acute whole effluent toxicity testing.

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. To the extent the data complies with the monitoring requirements of this Order, the Discharger may utilize data collected as part of Order No. 5-01-258, as well as data and information collected as part of the Discharger's municipal separate storm sewer system (MS4) program (as required in Order No. R5-2008-0142/NPDES Permit No. CAS082597).

E. Other Monitoring Requirements – Not Applicable

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

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comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42.

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

B. Special Provisions

1. Reopener Provisions

a. Mercury. This provision allows the Regional Water Board to reopen this Order in the event that a mercury or methylmercury TMDL is adopted. In addition, this Order may be reopened if the Regional Water Board determines that a mercury offset program is feasible for dischargers subject to NPDES permits.

b. Compliance with State-Wide Sanitary Sewer System General Order. On May 2, 2006, the State Water Board adopted State Water Board Order 2006-0003, a Statewide General WDR for Sanitary Sewer Systems. Upon reissuance, should the existing State Water Control include new requirements for combined sewer systems in the revised General Order, this Order may be reopened to address applicable requirements or require coverage under the revised General Order.

2. Special Studies and Additional Monitoring Requirements

a. CSS Water Quality Assessment. The Discharger's CSS program is in compliance with the USEPA CSO Control Policy since the post construction condition has met the requirements for the Presumption Approach with untreated CSOs averaging less than one per year and 92 percent of the CSS flow volume is treated during storm events receiving primary treatment. The Discharger completed and submitted a water quality assessment in the Effluent and Receiving Water Quality and Toxicity Summary Report in 1995 that demonstrated compliance with water quality based objectives. Since 1995, the Discharger's has not evaluated whether its implemented LTCP projects under the presumption approach are ensuring continued compliance with water quality standards or are adequately protecting designated uses.

Therefore this Order requires the Discharger to complete a water quality assessment that updates the 1995 assessment report to demonstrate compliance with applicable water quality based objectives for remaining CSOs, including protection of designated uses. The intent of the assessment is to

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determine if the Discharger's Long-Term Control Plan (which is based on the USEPA CSO Control Policy's Presumption Approach) continues to achieve compliance with applicable State water quality objectives and protects designated uses of the Sacramento River for remaining CSOs.

Specifically, within 90 days from the effective date of this Order, the Discharger is to provide to the Regional Water Board for review and approval, a plan for conducting the water quality assessment, including proposed data, data sources and methodology(ies) to be used for evaluating compliance. The water quality assessment plan should describe the monitoring that will be conducted to collect data for use in the assessment, including 1) recommended pollutant parameters (including individual pollutants of concern, indicator pollutants, and other indicator tests such as whole effluent toxicity); 2) sampling locations; 3) sampling frequencies; and 4) analytical methods. Monitoring shall, at a minimum, include two full wet weather seasons. In developing the plan, the Discharger may propose coordinating data collection with the monitoring program required as part of the Discharger's municipal separate storm sewer system (MS4) program (as required in Order No. R5-2008-0142/NPDES Permit No. CAS082597).

The Discharger must complete the water quality assessment and provide a report to the Regional Water Board by **no later than the end of the 3rd year** of the permit term. The CSO water quality assessment report will, at a minimum, include the following components:

i. An analysis evaluating the potential impact of CSO discharges in relation to all applicable water quality objectives (including Basin Plan and CTR water quality objectives) and designated uses. If existing water quality objectives cannot be achieved and designated uses adequately protected, then the Discharger shall also assess the need for coordination with the Regional Water Board for the review and revision of water quality objectives and implementation procedures to ensure that future CSS controls will be sufficient to meet water quality objectives.

ii. An evaluation of necessary updates and/or revisions to the Nine Minimum Controls and/or Long-Term Control Plan if the assessment indicates that applicable water quality objectives are exceeded or that designated uses are impaired. The Discharger shall also provide proposed time frames for implementation of any proposed CSS program updates and/or revisions.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation, and Maintenance Specifications

a. Combined Wastewater Control System Plan of Operations. The Discharger will be required to revise and update as necessary their Combined Wastewater Control System Plan of Operations to ensure compliance with the Nine Minimum Controls and/or Long-Term Control Plan requirements in this Order. The existing Combined Wastewater Control System Plan of Operations primarily focuses on

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management of flows through the CSS during wet and dry weather. However, the Combined Wastewater Control System Plan of Operations must clearly establish operation, maintenance, and inspection procedures to maximize the removal to maximize the removal of pollutants during and after each precipitation event using all available facilities within the combined wastewater collection and treatment system, with the goal of achieving the highest treatment possible and minimizing CSOs and CSS outflows.

The Discharger is required to operate the combined wastewater collection and treatment system in conformance with the approved Combined Wastewater Control System Plan of Operations and shall report any variation from the Plan in the monthly monitoring reports provided to the Regional Water Board. Further modifications to the Combined Wastewater Control System Plan of Operations must be submitted for review and approval by the Executive Officer before they may become effective.

b. Implementation of the NMCs. The NMCs are technology-based requirements for CSOs. Implementation of the NMCs was required in Order No. 5-01-258, and this Order will carry over those requirements. In addition to requiring continued implementation of the NMCs, this Order will require the Discharger to improve on the implementation of several NMCs and increase the level of documentation required. These additional requirements are predominantly the result of the USEPA Region 9 findings and recommendations resulting from the September 2004 and July 2005 compliance evaluation inspections (see Section II.D of this Fact Sheet for more information regarding the compliance inspections).

i. Nine Minimum Controls No. 1. Conduct Proper Operations and Regular Maintenance Programs

The existing Order required the Discharger to implement the Operations and Maintenance Plan (the Plan), to update the Plan, and operate and maintain the combined sewer system according to the Plan. It also required the Discharger to keep records documenting implementation of the Plan.

The USEPA CEI noted that the Discharger had not developed and implemented a program to control discharges of fats, oils, and grease (FOG) to the combined sewer system. USEPA also noted that the City did not have standardized procedures to estimate and collect data on outflows from the combined sewer system and the sanitary sewer system that flows through the combined system. Finally, USEPA also noted that rehabilitation and replacement of sewer pipes needs to occur in a timely manner.

In its 13 January 2006 response to the USEPA's draft final report, the Discharger stated that discussions in the draft report did not fully address existing and forthcoming elements of the Discharger's FOG control program. The Discharger cited that City Code provisions existed for dealing with any prohibited discharges of FOG to the system. The Discharger stated that

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these are violation-based remedies as opposed to the USEPA-preferred regulatory program limiting the introduction of FOG to the collection system.

Based on information obtained from the Discharger's website (http://www.cityofsacramento.org/utilities/sewer/) it appears that the Discharger is now implementing a FOG control program in conjunction with other local government entities referred to as "Stop the Clog". The FOG control program is a joint partnership between the Sacramento Regional County Sanitation District, Sacramento Area Sewer District (including the cities of Citrus Heights, Elk Grove, Rancho Cordova and unincorporated areas of Sacramento County) and the cities of Folsom, Sacramento and West Sacramento. The FOG control program focuses on outreach and education, as well as prioritizing areas more likely to have an overflow for both outreach and education and maintenance and operation efforts.

The following is from the Discharger's ROWD submitted 2 June 2006:

> "*In addition to the Combined Sewer System (CSS), the City also owns and operates a separate sanitary sewer collection system. On May 2, 2006, the State Water Resources Control Board adopted Statewide General Waste Discharge Requirements for publicly owned sanitary sewer systems. (Order WQ 2006-003.) The City is required to seek coverage for its separate sewer system under that order within 6 months of its adoption (November 1, 2006). It is our expectation that the requirements for the City's separate sewer system, including reporting, operations, maintenance and management will be those set forth in Order WQ 2006-003 and that the renewed CSS NPDES permit will not include additional or different requirements. One of the requirements of the Statewide WDR is to develop and submit a "fats, oils and grease" (FOG) program. The program, developed pursuant to Order WQ 2006-003 will incorporate requirements for all restaurants in the City, including those located within the CSS."*

This Order requires the Discharger to continue to implement its existing FOG program throughout the City.

This permit requires the Discharger to update its Combined Wastewater Control System Plan of Operations. The Discharger must provide more detail on the organization and people responsible for implementing the plan and the resources allocated to implementing the plan. Additionally, this permit requires the Discharger to address issues that USEPA identified during the CEIs, including specifying an inspection and maintenance schedule and procedures for the CSS, as well as requires a description for when and under what circumstances Discharge Point Nos. 004, 005 and 007 are used (and treatment if any that is provided prior to discharge).

The Discharger can obtain additional information on developing an effective

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inspection and maintenance program in Chapter 2 of the USEPA's guidance manual entitled *Combined Sewer Overflows: Guidance for Nine Minimum Controls* (EPA 832-95-003, May 1995).

ii. Nine Minimum Controls No. 2. Maximize Use of the Collection System for Storage

The existing Order required the Discharger to maximize the in-line storage capacity of the collection system in light of the need to balance the storage needs with the goal of preventing outflows of sewage from the collection system to City streets. The Order also required the Discharger to keep records documenting implementation.

In its draft CEI report USEPA noted that the Discharger had increased the in-line and off-line storage capacity of the combined sewer system towards the goal of reducing street flooding and outflows from the CSS. USEPA also noted that the Discharger has additional storage and relief projects for some areas that remain prone to flooding or outflows during storms but not for all areas that experience flooding or outflows. USEPA concluded that the Discharger has not yet maximized the use of the collection system for storage. USEPA also states that the need for additional measures to reduce flooding and outflows is better addressed in the context of the Discharger's LTCP.

In its response to the USEPA draft final report, the Discharger took issue with USEPA's statement that the Discharger has not satisfied the objective of the minimum control to maximize the storage capacity of the combined sewer system. The Discharger believes that the completed projects have satisfied the intent of this minimum control, which is to maximize storage capacity of the existing collection system. The need for any additional projects should be addressed as part of the LTCP.

It is agreed that additional projects involving major construction to increase storage (in-line or off-line) should be addressed as part of the LTCP. However, any projects that the Discharger has previously committed to implement can be addressed within the context of this minimum control.

This Order requires the Discharger to investigate the feasibility of increasing the storage capacity of the existing CSS and the up-system separate sanitary sewer system based on the results of the CSS Water Quality Assessment required in Section VI.C.2.a of the Order. Depending on the outcome of the assessment, the Discharger may need to evaluate, among other things, reducing infiltration and inflow to the collection systems, retarding inflows to the system, and using localized detention in appropriate upstream portions of the collection system. The Discharger must be sensitive to the possibility that actions to increase the storage capacity of the collection system may exacerbate the outflows that the system currently experiences. USEPA's

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Combined Sewer Overflows: Guidance for Nine Minimum Controls (EPA 832-B-95-003, May 1995) provides the Discharger with a number of alternative actions that it can look at.

iii. Nine Minimum Controls No. 3. Review and Modify Pretreatment Program

The existing Order required the Discharger to continue implementation of selected controls to minimize the impact of non-domestic discharges on the CSOs. It also required the Discharger to re-evaluate at an appropriate frequency whether additional modifications to its pretreatment program are feasible or of practical value and to keep records to document this evaluation of selected CSO controls to minimize CSO impacts from non-domestic discharges to the combined sewer system.

The purpose of this NMC is to ensure that the Discharger assesses the potential impacts from non-domestic user discharges to the collection system when CSOs do occur, and evaluate whether additional controls (e.g., delayed release volume controls) are required. The Discharger is not required to have an approved pretreatment program to regulate non-domestic users of the CSS; the Sacramento Regional County Sanitation District (SRCSD) operates a pretreatment program and regulates the discharges from non-domestic users in the City. It is uncertain whether an evaluation of the potential contribution from non-domestic users when CSOs occur has been performed by the Discharger, whether the SRCSD pretreatment program contains a component that would address discharges specifically to the CSS (or the separate sanitary sewer that flows into the CSS), and whether modifications to the SRCSD pretreatment program are necessary to minimize the impacts of CSOs on receiving water quality.

This permit requires the Discharger to prepare a report that evaluates the potential impact of non-domestic discharges to the CSS and the up-stream sanitary system during precipitation events. Additionally, this permit requires the Discharger to investigate the feasibility of limiting batch discharges by significant industrial users to the combined sewer system and the up-stream sanitary system during wet weather events and to study the feasibility of requiring industrial users to retain wastewater during wet weather events.

iv. Nine Minimum Controls No. 4. Maximize Flow to the POTW Treatment Plant

The existing Order required the Discharger to convey 60 mgd to the SRWTP for secondary treatment and to maximize flows to the Pioneer Reservoir and the CWTP. It also required the Discharger to give equal priority to the primary treatment facilities after the approval of an upgrade for the Pioneer Reservoir. The Discharger was required to maintain records to document these actions.

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USEPA, in its CEI report, identified no issues with the Discharger's maximization of flows to the treatment facilities. USEPA did note that during the 19 September 2004 storm event, the Discharger did manage to convey 60 mgd to the SRWTP throughout most of the event although the flow to the SRWTP may have dropped below 60 mgd when the Sump 2A dry-side pumps were clogged with debris. However, the clogging did cause back-ups into, and outflows from, the CSS.

In its 13 January 2006 response, the Discharger stated that it does not believe that discussions of compliance with this NMC (as well as compliance with NMCs Nos. 6, 7, and 8) should not be based on impacts associated with the 19 September 2004 storm event. The Discharger cites this storm as a 1-in-50,000 year storm event, and that it far exceeded the capacity of the CSS.

While the Discharger believes that storm events such as the September 19 storm should not be included in compliance discussions, the Discharger must be sensitive to the fact that large storms that may exceed the capacity of the CSS that may result in outflows and flooding. The outflows and flooding must be considered when discussing compliance with permit conditions for controlling CSOs and outflows from the CSS.

This Order requires the Discharger to continue operating the combined wastewater treatment system at maximum treatable flow during wet weather events and to report rainfall and flow data to the Regional Water Board.

v. Nine Minimum Controls No. 5. Prohibit CSOs During Dry Weather

The existing Order prohibited dry weather overflows from the CSO outfalls and required the Discharger to report these overflows to the Board within 24 hours of discovery. When such an overflow occurs, the Order required the Discharger to initiate corrective action immediately, inspect the overflow daily until it is eliminated, and record the overflow, its cause, the corrective actions taken, and the dates on which the overflow began and ended.

As part of the CEI, USEPA reviewed the Discharger's self-monitoring reports since 2002. The review showed no reported dry weather overflows. In its March 2002 status report, the Discharger reported that no dry weather overflows had occurred in the past 5 years.

This order requires the Discharger to continue to monitor and report dry weather overflows, to take corrective action in the event that there is a dry weather overflow, and record the necessary information.

vi. Nine Minimum Controls No. 6. Control of Solid and Floatable Materials in CSOs

The existing Order required the Discharger to implement measures to control

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solid and floatable materials in CSOs.

In its CEI report USEPA noted that the Discharger, in its March 2003 status report, stated that it has employed all reasonable methods to control the release of solid and floatable materials from its CSS. The Discharger cites the collection of green wastes from street gutters, use of Type B drop inlets to limit the entry of floatable oil and other substances into the CSS, the use of trash racks and bar screens at Sump 2A, and solids settling and floatable skimming at the Pioneer Reservoir and the CWTP. The CEI report further states that during the 19 September 2004 storm, two of the systems failed. Green waste washed into the CSS and obstructed the mechanical bar screens at Sump 2A. Although there were no CSOs during this storm, these obstructions caused outflows from the CSS.

In its response to the USEPA CEI report, the Discharger again stated that this was an unprecedented and unforeseen 1-in-50,000 year event that occurred during dry weather operations. The Discharger's position is that this storm and its impact on the CSS should not enter into a discussion of compliance with an Order's requirement to implement the NMC and document their implementation.

The Discharger must be sensitive to the fact that large storms may exceed the capacity of the CSS and may cause outflows and flooding. The Discharger must ensure that operational issues are addressed to minimize outflows and flooding during signification storm events.

This Order requires the Discharger to continue to implement its current measures to control solid and floatable materials, as well as to identify and study possible additional measures to restrict the entry of solid and floatable materials into the CSS. The Discharger should refer to USEPA's *Combined Sewer Overflows: Guidance for Nine Minimum Controls* to identify possible additional control measures.

vii. Nine Minimum Controls No. 7. Pollution Prevention Programs to Reduce Contaminants in CSOs

The existing Order requires the Discharger to implement a pollution prevention program to reduce the impact of CSOs on receiving waters and to keep records documenting pollution prevention activities.

In its March 2002 status report, the Discharger described a number of pollution prevention measures that were being implemented (e.g., recycling, household hazardous waste collection, water conservation). During USEPA's CEI, these pollution prevention measures were not evaluated. Instead, the CEI focused on the issue of green wastes flowing into the CSS and obstructing the bar screens at Sump 2A resulting in outflows during the 19 September 2004 storm. USEPA suggested that the Discharger take steps to

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limit the introduction of green waste to the CSS.

In its 13 January 2006 response, the Discharger cited the intensity of the 19 September 2004 storm and further stated that the draft report's discussion presents an incomplete picture that suggests the Discharger is not implementing appropriate pollution control measures. The Discharger's response addressed the issue by citing a City ordinance that prohibits the containerized collection of green waste without the approval of a majority of Sacramento voters. The Discharger also described the various measures it has taken to minimize the potential drainage impacts of green waste.

This Order requires the Discharger to continue its pollution prevention program and to continue to keep appropriate records to document implementation of the program. Further, the Order will require that the Discharger identify opportunities for improving existing controls (including those controls implemented as part of the Discharger's MS4 program) for reducing the potential discharge of pesticides (e.g., diuron, chlorpyrifos, diazinon) during precipitation events when CSS outflows and CSOs are likely to occur. This evaluation shall be based on the results of the CSS Water Quality Assessment required in Section VI.C.2.a of the Order.

viii. Nine Minimum Controls No. 8. Notify the Public of CSOs

The existing Order requires the Discharger to implement a public notification program to inform the public of when and where outflows from the CSS to streets occur and when and where CSOs occur. The Discharger was required to include three elements in the program.

In its CEI report, USEPA stated that during the 19 September 2004 storm, the Discharger failed to provide timely and effective notification to the residents in impacted areas and that there were delays in placing barriers and warning signs in the impacted areas. Section 7 of the USEPA's CEI report provides a more detailed discussion of the identified weaknesses in the Discharger's 31 July 2001 Sewer Overflow Emergency Response Plan.

USEPA's CEI report also noted that the Discharger had yet to address a number of improvements recommended by the Regional Water Board in its 17 July 2003 letter to the Discharger (based on the Regional Water Board's review of the 31 July 2001 and 22 January 2003 plan provided by the Discharger). In March 2007, the Discharger provided Standard Operating Procedures for Emergency Response that replaces the previous Sewer Overflow Emergency Response Plan. This document includes an incident response plan, as well as standard operating procedures for a wet weather CSO response, a SSO response, wet weather CSOs and SSOs, training, a CSO/Surcharge decision tree, and Rain Patrols. The Discharger includes, in this updated document, notification flow charts for sewer overflows into businesses and residences, streets, and waters of the State. These charts

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include responsibility for actions to take in the event that a Level A through D overflow poses an exposure hazard to the public.

Based on a review of the March 2007 Standard Operating Procedures for Emergency Response, it appears that the Discharger did not consider or incorporate a number of the Regional Water Board's recommendations. In addition to the Regional Water Board's comments on the previous Sewer Overflow Emergency Response Plan, the following recommendations are suggested:

- There is no provision for notifying the public other than restricting access to flooded areas and to minimize public exposure, including posting signs at the site. Additional postings at the site may occur when directed.
- In Section II, it states that the first step by the Utilities Department is that the Sewer Collection Field Crew will **attempt** (emphasis added) to estimate the volume of the overflow. The volume of the overflow must be determined. The volume of the overflow, in conjunction with its location, dictates the level of response for the event.
- Throughout Section II there are Notification Flow Charts to address a variety of spill situations (e.g., into a residence, into the street), however there are no time frames associated with the notifications or priority for which entities get contacted before others (e.g., according to the flow chart, it is uncertain whether the State Health Department would be notified before the Assistant City Manager would). Also, the Sewer Overflow Notification Checklist is to be used to document who was called and at what time.
- On page 32 of the document, there are two formulas for calculating the volume of a CSO and a SSO, respectively. In the CSO calculation, there is no overflow duration factor. It appears to be a simple volume calculation for a length of pipe multiplied by a conversion factor of 7.48 for converting cubic feet to gallons. The volume of a SSO will be determined by the on-site supervisor, using the formula: gpm x duration = volume. Although this formula is appropriate for standing water, it may not be appropriate for observed flowing outflows, where duration needs to be accounted for.
- On page 32, it states "Methods to be used to secure the site **may** (emphasis added) include…." This language must be stronger. A recommendation is that "Methods to be used to secure the site **must** (emphasis added) include ……."
- On page 34, there is a CSO/Surcharge Decision Tree. Under this decision tree, when there is no debris present, the overflow is a Surcharge. When there is debris (fecal matter, toilet paper, etc.) present, the overflow is a CSO. When the overflow is deemed to be a surcharge, the actions to be taken are photo document the site and continue to monitor the event. When it's a CSO, corrective action is taken based on spill volume and location of the CSO. The document needs to define "surcharge". Is the absence of debris sufficient to only monitor the

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discharge?

- Rain Patrols are used to identify street flooding. Do they also estimate the volume of the overflow, determine whether it's a CSO or a surcharge, or secure the site to limit public access? This appears to be a very resource intensive method to identify instances of street flooding.
- The Discharger must submit documentation on what actions are to be implemented to secure the overflow site and to notify the public of the hazard. This documentation must include examples of the exposure notices referenced in Level B, C, and D overflow events.

Because this NMC measure addresses CSS outflows as well as CSO discharges, the Discharger should ensure that its updated document is consistent with the State Water Resources Control Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Specifically, Provision D. 13 (vi) delineates the minimal elements of an Overflow Emergency Response Plan necessary to protect public health and the environment.

Also, USEPA's *Combined Sewer Overflows: Guidance for Nine Minimum Controls* (EPA 832-B-95-003, May 1995) lists in Chapter 9 a number of measures that the Discharger can consider for implementation.

ix. Nine Minimum Controls No. 9. Monitoring to Effectively Characterize CSO Impacts and the Efficacy of CSO Controls

The existing Order requires the Discharger to regularly monitor CSO outfalls to effectively characterize CSO impacts and the efficacy of the CSO controls. The existing Order also required the Discharger to monitor at the CSO outfalls as well as monitor the Sacramento River upstream and downstream of the CSO outfalls.

In its CEI report USEPA noted that the Discharger met the provisions of the existing Order for monitoring the CSOs and the Sacramento River. The USEPA also noted that in the Discharger's 2002 status report, it used its SWMM model to estimate locations and volume of street flooding and outflows in the CSS. USEPA further noted that during the inspection, it found shortcomings in the Discharger's efforts to measure and document CSS flooding and outflows.

In its 13 January 2006 response to the USEPA's CEI report, the Discharger did not specifically address the USEPA's comment that it had shortcomings in documenting CSS flooding and outflows. The Discharger presented its position on documenting CSS overflows and outflows in the section of its response addressing USEPA's comments of the Discharger's Long-Term Control Plan and its Spill Response and Reporting.

This Order requires the Discharger to regularly monitor CSO outfalls to

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effectively characterize overflow impacts and the efficacy of CSO controls. It further requires that the Discharger update its procedures as necessary for monitoring and documenting the location of CSS flooding and outflows and for providing a reasonable estimate of overflow and outflow volumes.

b. Implementation of the LTCP. This Order will require the continued implementation of the Discharger's LTCP with the following interim goals to be met as progress is made towards the final goal of minimizing street flooding during a 10-year storm event and to prevent structure flooding during the 100-year storm event:

- Obtaining protection from a 5-year storm in the six areas of worst flooding (including downtown, north of Capital park; U.C. Medical Center area; immediately south of Highway 80 between Riverside and Freeport; the area northeast of Highway 99 and Highway 80 interchange; the area northwest of Highway 99 and Highway 80 interchange, and the Land Park area),
- Obtaining protection from a 5-year storm throughout the combined sewer system area,
- Obtaining protection from a 10-year storm in the six areas of worst flooding, and then
- Obtaining the goal of protection from a 10-year storm event throughout the combined sewer system.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Requirements are included in the Order to ensure that the Discharger complies with applicable regulations for the disposal of collected screenings, sludge, and other solids removed from the CSS treatment systems.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of WDRs that will serve as an NPDES permit for the Facility. As a step in the WDR adoption process, the 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

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recommendations. Notification was provided through the following **[Describe Notification Process (e.g., newspaper name and date)]**

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 must be received at the Regional Water Board offices by 5:00 p.m. on **<DATE>**.

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: 23/24/25 January 2009
Time: 8:30 a.m.
Location: Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. 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 www.waterboards.ca.gov/centralvalley where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

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

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

E. Information and Copying

The Report of Waste Discharge, related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be

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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 James Marshall at 916-464-4772.

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ATTACHMENT G – COMBINED SEWER SYSTEM OUTFLOW REPORTING REQUIREMENTS

Consistent with the intent of the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Order No. 2006-003-DWQ) to notify the State and public of sanitary sewer overflows from collection systems that may potentially impact beneficial uses and public health, the following establishes the monitoring, record-keeping, reporting and notification requirements for combined sewer system (CSS) outflows.

For purposes of these requirements, a CSS outflow includes any overflow, spill, release, discharge or diversion of untreated or partially treated sewage or combined sewage and stormwater from the combined sewer collection system. CSS outflows include:

- Outflows or releases of untreated sewage or combined sewage and stormwater that reach waters of the United States;
- Overflows or releases of untreated or partially treated sewage or combined sewage and stormwater that do not reach waters of the United States; and
- Sewage or combined sewage and stormwater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of the combined sewer system.

CSS outflows do not include any combined sewer overflow (CSO) discharges from discharge points authorized under this Order (including Discharge Point Nos. 002 through 007).

Revisions to the CSS reporting requirements may be made at any time by the Executive Director, and may include a reduction or increase in the monitoring and reporting.

A. General Reporting Requirements

1. The Discharger must complete a Notice of Intent (NOI) for the combined sewer system and obtain a Sanitary Sewer System (SSO) Database account by registering through the California Integrated Water Quality System (CIWQS). This account will allow controlled and secure entry into the SSO Database. Additionally, within 30 days of receiving an account and prior to recording CSS outflows into the SSO Database, the Discharger must complete the “Collection System Questionnaire”, which collects pertinent information regarding an Enrollee’s collection system. The “Collection System Questionnaire” must be updated at least every 12 months.

2. Pursuant to Health and Safety Code section 5411.5, any person who, without regard to intent or negligence, causes or permits any untreated wastewater or other waste (e.g., combined wastewater and stormwater) to be discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State, as soon as that person has knowledge of the discharge, shall immediately notify the local health officer of the discharge. Discharges of untreated or partially treated wastewater to storm drains and drainage channels, whether man-made or natural or concrete-lined, shall be reported as required above.

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3. Any CSS outflow greater than 1,000 gallons discharged in or on any waters of the State, or discharged in or deposited where it is, or probably will be, discharged in or on any surface waters of the State shall also be reported to the California Emergency Management Agency (CALEMA) pursuant to California Water Code section 13271.

4. If the Discharger becomes aware that it failed to submit any relevant facts in any report required herein, the Discharger shall promptly submit such facts or information by formally amending the report in the Online SSO Database.

B. Notification Requirements

1. For any CSS outflow that results in a discharge to a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify CALEMA, the local health officer or directors of environmental health with jurisdiction over affected water bodies, and the Regional Water Board.

2. As soon as possible, but no later than twenty-four (24) hours after becoming aware of a CSS outflow that results in a discharge to a drainage channel or a surface water, the Discharger shall submit to the appropriate Regional Water Quality Control Board a certification that CALEMA and the local health officer or directors of environmental health with jurisdiction over the affected water bodies have been notified of the discharge.

C. CSS Outflow Categories

1. Category 1 - All discharges of sewage or combined sewage and stormwater resulting from a failure in the Discharger's combined sewer system that:

   a. Equal or exceed 1,000 gallons, or

   b. Result in a discharge to a drainage channel and/or surface water; or

   c. Discharge to a storm drainpipe that was not fully captured and returned to the CSS.

2. Category 2 - All other discharges of sewage or combined sewage and stormwater resulting from a failure in the Discharger's CSS.

3. Private Lateral Sewage Discharges - Sewage or combined sewage and stormwater discharges that are caused by blockages or other problems within a privately owned lateral.

D. CSS Outflow Reporting Timeframes

1. Category 1 CSS Outflow - Except as provided in B. above, all CSS Outflows that meet the above criteria for Category 1 CSS Outflows must be reported as soon as: (1) the Discharger has knowledge of the discharge, (2) reporting is possible, and (3)

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reporting can be provided without substantially impeding cleanup or other emergency measures. Initial reporting of Category 1 CSS Outflows must be reported to the Online SSO System as soon as possible but no later than 3 business days after the Discharger is made aware of the CSS outflow. Minimum information that must be contained in the 3-day report must include all information identified in section E.1 below, except item E.1.k. A final certified report must be completed through the Online SSO System within 15 calendar days of the conclusion of CSS outflow response and remediation. Additional information may be added to the certified report, in the form of an attachment, at any time.

The above reporting requirements do not preclude other emergency notification requirements and timeframes mandated by other regulatory agencies (local County Health Officers, local Director of Environmental Health, Regional Water Boards, CALEMA or State law.

2. Category 2 CSS Outflows - All CSS Outflows that meet the above criteria for Category 2 CSS outflows must be reported to the Online SSO Database within 30 days after the end of the calendar month in which the CSS outflow occurs (e.g., all CSS outflows occurring in the month of January must be reported to the Regional Water Board by March 1st).

3. Private Lateral Sewage Discharges - All sewage discharges that meet the above criteria for Private Lateral sewage discharges may be reported to the Online SSO Database based upon the Discharger's discretion. If a Private Lateral sewage discharge is recorded in the Online SSO Database, the Discharger must identify the sewage or combined sewage and stormwater discharge as occurring and caused by a private lateral, and a responsible party (other than the Discharger) should be identified, if known.

4. If there are no CSS Outflows during the calendar month, the Discharger will provide, within 30 days after the end of each calendar month, a statement through the Online SSO Database certifying that there were no CSS Outflows for the designated month.

5. In the event that the Online SSO Database is not available, the Discharger must fax all required information to the Regional Water Board office (916-464-4600) in accordance with the time schedules identified above. In such event, the Discharger must also enter all required information into the Online SSO Database as soon as practical.

E. Mandatory Information to be included in CSS Outflow Reporting

The Discharger must report, at a minimum, the following mandatory information prior to finalizing and certifying a CSS outflow report for each category of CSS outflow:

1. Category 2 CSS Outflows:

a. Location of the CSS outflow, including latitude and longitude coordinates, street address, city, state, zip code, cross street, and manhole number;

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b. Applicable Regional Water Board, i.e. identify the region in which the CSS outflow occurred;

c. County where CSS outflow occurred;

d. Whether or not the CSS outflow entered a drainage channel and/or surface water;

e. Whether or not the CSS outflow was discharged to a storm drain pipe that was not fully captured and returned to the CSS;

f. Estimated CSS outflow volume in gallons;

g. CSS outflow source (manhole, cleanout, etc.);

h. CSS outflow cause (mainline blockage, roots, etc.);

i. Time of CSS outflow notification or discovery;

j. Estimated operator arrival time;

k. CSS outflow destination;

l. Estimated CSS outflow end date/time; and

m. Certification. Upon Certification, the SSO Database will issue a Final SSO Identification (ID) Number.

2. Private Lateral Sewage Discharges:

a. All information listed above (if applicable and known), as well as;

b. Identification of sewage or combined sewage and stormwater discharge as a private lateral sewage discharge; and

c. Responsible party contact information (if known).

3. Category 1 CSS Outflows:

a. All information listed for Category 2 CSS outflows, as well as;

b. Estimated CSS outflow volume that reached surface water, drainage channel, or not recovered from a storm drain;

c. Estimated CSS outflow amount recovered;

d. Response and corrective action taken;

e. If samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA must be selected.;

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f. Parameters that samples were analyzed for (if applicable);

g. Identification of whether or not health warnings were posted;

h. Beaches impacted (if applicable). If no beach was impacted, NA must be selected;

i. Whether or not there is an ongoing investigation;

j. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the CSS outflow and a schedule of major milestones for those steps;

k. OES control number (if applicable);

l. Date OES was called (if applicable);

m. Time OES was called (if applicable);

n. Identification of whether or not County Health Officers were called;

o. Date County Health Officer was called (if applicable); and

p. Time County Health Officer was called (if applicable).

F. Reporting to Other Regulatory Agencies

These reporting requirements do not preclude the Discharger from reporting CSS outflows to other regulatory agencies pursuant to California state law.

1. The Discharger shall report CSS outflows to CALEMA, in accordance with California Water Code Section 13271.

CALEMA
Phone (800) 852-7550

2. The Discharger shall report CSS outflows to County Health officials in accordance with California Health and Safety Code Section 5410 et seq.

G. Record Keeping

1. Individual CSS outflow records shall be maintained by the Discharger for a minimum of 5 years from the date of the CSS outflow. This period may be extended when requested by the Regional Water Board Executive Officer.

2. All records shall be made available for review upon State or Regional Water Board staff's request.

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3. All monitoring instruments and devices that are used by the Discharger to fulfill the prescribed monitoring and reporting program shall be properly maintained and calibrated as necessary to ensure their continued accuracy;

4. The Discharger shall retain records of all CSS outflows, such as, but not limited to and when applicable:

   a. Record of Certified report, as submitted to the Online SSO Database;

   b. All original recordings for continuous monitoring instrumentation;

   c. Service call records and complaint logs of calls received by the Discharger;

   d. CSS outflow calls;

   e. CSS outflow records;

   f. Steps that have been and will be taken to prevent the CSS outflow from recurring and a schedule to implement those steps;

   g. Work orders, work completed, and any other maintenance records from the previous 5 years which are associated with responses and investigations of system problems related to CSS outflows;

   h. A list and description of complaints from customers or others from the previous 5 years; and

   i. Documentation of performance and implementation measures for the previous 5 years.

5. If water quality samples are required by an environmental or health regulatory agency or State law, or if voluntary monitoring is conducted by the Discharger or its agent(s), as a result of any CSS outflow, records of monitoring information shall include:

   a. The date, exact place, and time of sampling or measurements;

   b. The individual(s) who performed the sampling or measurements;

   c. The date(s) analyses were performed;

   d. The individual(s) who performed the analyses;

   e. The analytical technique or method used; and,

   f. The results of such analyses.

H. Certification

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1. All final reports must be certified by a person designated, for a municipality, state, federal or other public agency, as either a principal executive officer or ranking elected official, or by a duly authorized representative of that person, as described in Section V.B. of the Standard Provisions (Attachment D). (For purposes of electronic reporting, an electronic signature and accompanying certification, which is in compliance with the Online SSO Database procedures, meet this certification requirement.)

2. Registration of authorized individuals, who may certify reports, will be in accordance with the California Integrated Water Quality System's (CIWQS') protocols for reporting.

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ATTACHMENT H – SUMMARY OF CITY OF SACRAMENTO LTCP UPDATES

Year	Project Name	LTCP Update (Projects Scheduled for Completion)						
		7/1/03 – 6/30/04	7/1/04 – 6/30/05	7/1/05 – 6/30/06	7/1/06 – 6/30/07	7/1/07 – 6/30/08	7/1/08 – 6/30/09	7/1/09 – 6/30/10
2003	Pioneer Reservoir Fiber Optic Cable	$200,000						
	41st Street/Folsom Blvd. Drain Improvements	$500,000						
	9th/10th Avenue Sewer, 5th to 6th Street	$56,000						
	36th St./Santa Ynez Sewer M to N Street	$42,000						
	Marshall/Portola Sewer	$95,000						
	Santa Ynez/36th St. Sewer Folsom to P Street	$145,452						
	G/H Alley Sewer Replacement-11th to 12th Street	$122,000						
	Sloat/2nd Ave. Sewer-24th to 27th Street	**$334,000**	**$328,000**					
	2nd Ave./Land Park Drive-Phase 2	$250,000						
	Broadway/Burnett Alley Sewer	$142,845						
	Crescent Way Sewer	$40,000						
	Misc. Drain Inlet Replacement 2003	$360,000						
	N Street Sewer Replacement- 25th to 29th Street	**$550,000**	**$990,000**	**$1,533,000 (with 29th St. and Capitol to N)**				
	U/V Alley Sewer Replacement- 4th to 5th Street	**$120,000**	**$120,000**					
	U/V Alley Sewer Replacement- 12th to 14th Street	**$280,000**	**$280,000**					
	U/V Alley Sewer Replacement- 21st to 24th Street	$410,000						
	Total	**$3,647,297**						

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Year	Project Name	LTCP Update (Projects Scheduled for Completion)						
		7/1/03 – 6/30/04	7/1/04 – 6/30/05	7/1/05 – 6/30/06	7/1/06 – 6/30/07	7/1/07 – 6/30/08	7/1/08 – 6/30/09	7/1/09 – 6/30/10
2004	**U and S Street Parallel Sewer Project**		**$4,650,000**	**$5,613,000**				
	Various CSS pipe rehab projects		$1,133,000					
	T/U Alley Sewer Replacement 12th to 13th		$125,000					
	J Street Drain Inlet Replacement		$131,000					
	7th Street Sewer Replacement, Cost Share w/ RT		$1,700,000					
	Total		**$9,457,000**					
2005	**Sump 2A Catenary Rake**			**$100,000**	**$130,000**			
	S/T Alley Sewer Replacement 10th to 15th			**$655,000**	**$620,000**			
	S/T Alley Sewer Replacement 22nd to 29th			**$1,000,000**	**$820,000**			
	Drain Inlet Replacement, 2005			**$250,000**	**$250,000**			
	Stockton Blvd Sewer Rehab, 2nd to Y			$130,000				
	Serra/T Alley Sewer Rehab, 32nd to 34th			$60,000				
	I/J Alley Sewer Replacement 25th to 27th			$260,000				
	3rd Avenue Sewer Rehab-Stockton to 42nd Street			$120,000				
	E/F Alley Sewer Replacement 13th to 15th			$270,000				
	D/E Alley Sewer Replacement 25th to 27th			**$338,000**	**$784,000**	**$683,000**		
	E/F Alley Sewer Replacement 25th to 27th			**$353,000**				
	R Street Local Storage 11th to 13th			$806,000				
	McKinley Way Sewer Construction			**$2,278,000**	**$2,778,000**			
	13th and 12th Avenue Sewer Rehab			**$1,000,000**	**$650,000**	**$650,000**		
	H Street Sewer Rehab			$80,000				

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Year	Project Name	LTCP Update (Projects Scheduled for Completion)						
		7/1/03 – 6/30/04	7/1/04 – 6/30/05	7/1/05 – 6/30/06	7/1/06 – 6/30/07	7/1/07 – 6/30/08	7/1/08 – 6/30/09	7/1/09 – 6/30/10
	32nd/33rd Sewer Rehab-32nd to 34th Street			$50,000				
	Total			**$14,896,000**				
2006	N/O Alley Sewer Replacement, 20th to 22nd				$494,000			
	Flood Gates at Blue Diamond				**$225,000**	**$225,000**	**$243,000**	
	S Street Sewer Replacement, 7th to 11th				$1,500,000			
	13th Avenue Sewer Replacement				$350,000			
	J/K Alley Sewer Replacement, 9th to 11th				**$350,000**	**$450,000**	**$705,000**	
	Capitol/L Alley Sewer Replacement, 18th to 19th				**$165,000**	**$165,000**		
	CIPP 2006- (Portion within CSS only)				**$200,000**	**$200,000**		
	Total				**$9,316,000**			
2007	S/T Alley Sewer Replacement 18th to 19th					$175,000		
	Oak Park Diversion Study					$140,000		
	Drain Inlet Replacement FY 2006 and FY 2007					**$700,000**	**$500,000**	
	CSS Flow Meters					**$50,000**	**$50,000**	
	34/35 Alley Sewer Replacement at Folsom Blvd					$243,000		
	11th Street Sewer Replacement P/Q to R Streets					**$630,000**	**$630,000**	
	J Street Sewer Replacement 19th to 20th					$351,000		
	J/K Alley Sewer Replacement 22nd to 23rd					**$150,000**	**$150,000**	
	3rd Street CSS Relief Sewer Preliminary Design					**$310,000**	**$310,000**	
	Total					**$5,122,000**		
2008	CWTP Motor Control Center Replacement						$590,000	

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Year	Project Name	LTCP Update (Projects Scheduled for Completion)						
		7/1/03 – 6/30/04	**7/1/04 – 6/30/05**	**7/1/05 – 6/30/06**	**7/1/06 – 6/30/07**	**7/1/07 – 6/30/08**	**7/1/08 – 6/30/09**	**7/1/09 – 6/30/10**
	Sump 2 Motor Control Center Replacement						$1,200,000	
	Sump 2A Pump Replacement						**$600,000**	**$600,000**
	Fremont Area Rehab-Phase 1						$425,000	
	Total						**$5,403,000**	
2009	5th Street Upsizing, U to P Streets							$2,140,000
	Drain Inlet Replacement, FY 2010							$400,000
	CSS Flow Meters							$50,000
	Flood Gates at Blue Diamond							$243,000
	Fremont Area Rehab – Phase 2							$425,000
	Total							**$3,858,000**

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