

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

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ORDER NO. R5-2008-XXXX
NPDES NO. CA0084476

**WASTE DISCHARGE REQUIREMENTS FOR THE
CITY OF LINCOLN
WASTEWATER TREATMENT AND RECLAMATION FACILITY
PLACER COUNTY**

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

Table 1. Discharger Information

Discharger	City of Lincoln
Name of Facility	Wastewater Treatment and Reclamation Facility
Facility Address	1245 Fiddymment Road
	Lincoln, CA 95648
	Placer 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 Lincoln from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Municipal Wastewater	38°, 52', 05" N	121°, 21', 28" W	Auburn Ravine Creek

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

IT IS HEREBY ORDERED, that Order No. 5-01-242 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

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

PAMELA C. CREEDON, Executive Officer

Table of Contents

- I. Facility Information 3
- II. Findings 3
- III. Discharge Prohibitions 10
- IV. Effluent Limitations and Discharge Specifications 11
 - A. Effluent Limitations 11
 - 1. Final Effluent Limitations – Discharge Point EFF-001 11
 - 2. Interim Effluent Limitations 13
 - B. Land Discharge Specifications – NOT APPLICABLE 13
 - C. Reclamation Specifications – NOT APPLICABLE 13
- V. Receiving Water Limitations 14
 - A. Surface Water Limitations 14
 - B. Groundwater Limitations 16
- VI. Provisions 16
 - A. Standard Provisions 16
 - B. Monitoring and Reporting Program (MRP) Requirements 21
 - C. Special Provisions 21
 - 1. Reopener Provisions 21
 - 2. Special Studies, Technical Reports and Additional Monitoring Requirements 23
 - 3. Best Management Practices and Pollution Prevention 25
 - 4. Construction, Operation and Maintenance Specifications 26
 - 5. Special Provisions for Municipal Facilities (POTWs Only) 26
 - 6. Other Special Provisions 31
 - 7. Compliance Schedules 31
- VII. Compliance Determination 32

List of Tables

- Table 1. Discharger Information Cover
- Table 2. Discharge Location Cover
- Table 3. Administrative Information Cover
- Table 4. Facility Information 3
- Table 5. Basin Plan Beneficial Uses 6
- Table 6a. Final Effluent Limitations - Filter Clearwell – INT-001 9
- Table 6b. Final Effluent Limitations – Discharge Point 001 10
- Table 7. Interim Effluent Limitations – NOT APPLICABLE 11
- Table 8. Land Discharge Specifications - NOT APPLICABLE 11
- Table 9. Reclamation Discharge Specifications – NOT APPLICABLE 11

List of Attachments

- [Attachment A](#) – Definitions A-1
- Attachment B – Map B-1
- Attachment C – General Site Plan and Flow Schematic C-1
- Attachment D – Standard Provisions D-1
- Attachment E – Monitoring and Reporting Program (MRP) E-1
- Attachment F – Fact Sheet F-1
- Attachment G – Reasonable Potential Analysis G-1
- Attachment H – Constituents of Concern H-1

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 Lincoln	
Name of Facility	Wastewater Treatment and Reclamation Facility	
Facility Address	1245 Fiddymont Road	
	Lincoln, CA 95648	
	Placer County	
Facility Contact, Title, and Phone	John Pedri, Director of Public Works Chief Plant Operator (ECO:LOGIC) 916-434-5062 (facility)	916-645-8576 916-773-8100 (office)
Mailing Address	640 Fifth Street Lincoln, CA 95648	
Type of Facility	Publicly Owned Treatment Works	
Facility Design Flow	Current - 4.2 million gallons per day (mgd) Average Dry Weather Flow (ADWF) Proposed - Up to 8.4 mgd ADWF <u>Outfall Regulated Capacity: 12.2 mgd</u>	

II. FINDINGS

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

A. Background. The City of Lincoln (hereinafter Discharger) is currently discharging pursuant to Order No. 5-01-242 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0084476. The Discharger submitted a Report of Waste Discharge, dated 4 April 2006, and applied for an NPDES permit renewal to increase discharge to a maximum of 8.4 mgd of treated wastewater from the City of Lincoln Wastewater Treatment and Reclamation Facility, hereinafter Facility. The actual increase in capacity will depend on actual growth of the City and requests for sewer service by areas outside the City’s legal boundary. The application was deemed complete on 4 April 2006.

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 ECO:LOGIC Consulting Engineers operate, the municipal wastewater treatment facility, under contract with the Discharger. The Discharger is in the process of dismantling and decommissioning the old treatment and land disposal system that was replaced with the existing system. Currently, all wastewater is treated at the existing facility and discharged to Auburn Ravine under the existing NPDES Permit. The existing facility is designed to treat an average daily dry weather flow of 4.2 mgd. The tertiary treatment system includes an

influent pump station, fine screening, activated sludge oxidation ditches (for nitrification and de-nitrification), secondary clarifiers, a return activated sludge system, lined equalization basins (or maturation ponds), dissolved air flotation, chemical coagulation, rapid mix flocculation, and granular medium filtration. Disinfection is provided by ultra violet (UV) light. The facility also includes tertiary storage basins, a lined emergency storage basin, centrifuges for solids dewatering, solids holding tanks, solids removal, and solids storage. The equalization basins provide additional removal of pollutants, primarily metals and pesticides. The tertiary effluent storage basins allow the Discharger to route effluent to the storage basins rather than surface water discharge during potential downstream flooding and/or violation of effluent limitations. Several tertiary treatment standards must be met in the clearwell, after granular medium filtration, to comply with the California Water Code, rather than at the discharge point, where the Federal Clean Water Act requires the effluent to meet secondary treatment standards. Because of temporary storage of tertiary treated effluent in the storage basins, there are times when there is no discharge to surface water and times when the discharge to surface water can be higher than 4.2 mgd due to the outfall regulated capacity of 12.2 mgd.

The existing Permit contained a regulated Average Dry Weather Flow (ADWF) of 3.3 mgd, and referred to an outfall capacity of 12 mgd. This Order provides for an immediate increase in regulated ADWF to 4.2 mgd (the current actual treatment design capacity, excluding outfall capacity). During the life of this Order, the Discharger may increase the design average daily flow from 4.2 mgd to a maximum of 8.4 mgd (~~or some smaller increment~~excluding outfall) for local growth and/or to allow the Placer County sewage regionalization efforts to go forward. The existing plant capacity will be increased through construction of additional unit processes as described above. This Order includes incremental increases in regulated flow to correspond with the increase in plant influent flows and plant capacity.

Wastewater is discharged from Discharge Point 001 (see table on cover page) to Auburn Ravine Creek, a water of the United States, and tributary to East Side Canal, Cross Canal, and the Sacramento River, within the Pleasant Grove Hydrologic Sub Area, the Coon-American Hydrologic Area, and the Valley-American Hydrologic Unit of the Sacramento Hydrologic Basin. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

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

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

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

- E. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.
- F. Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (CFR)¹ require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and/or Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).
- G. Water Quality-based Effluent Limitations.** Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as technology equivalence requirements, which are necessary to achieve applicable water quality standards. The Regional Water Board has considered the factors listed in CWC Section 13241 in establishing these requirements. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements, is discussed in the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) EPA 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 section 122.44(d)(1)(vi).

- H. Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised August 2006), for the Sacramento and San Joaquin River Basins* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The

¹ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

Basin Plan at page II-2.00 states that the “...beneficial uses of any specifically identified water body generally apply to its tributary streams.” The Basin Plan does not specifically identify beneficial uses for Auburn Ravine Creek, but does identify present and potential uses for the Sacramento River, from the Colusa Basin Drain to the I Street Bridge, to which Auburn Ravine Creek, via the East Side Canal and Cross Canal, is tributary. These beneficial uses are as follows: municipal and domestic supply; agricultural supply for irrigation; navigation; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; warm migration of aquatic organisms; cold migration of aquatic organisms; warm spawning, reproduction, and/or early development; cold spawning, reproduction, and /or early development; and wildlife habitat.

In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, as discussed in detail in the Fact Sheet, beneficial uses applicable to Auburn Ravine Creek are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Auburn Ravine Creek	<u>Existing:</u> Municipal and domestic water supply (MUN), Agricultural supply (AGR) for irrigation, Contact (REC-1) and non-contact (REC-2) water recreation, Warm freshwater habitat (WARM), Cold freshwater habitat (COLD), Warm and cold migration of aquatic organisms (MGR), Warm and cold spawning, reproduction, and/or early development (SPWN), Navigation (NAV), and Wildlife habitat (WILD)
	Groundwater	Municipal and Domestic Supply (MUN); Agricultural Supply (AGR), Industrial Service Supply (IND), and Industrial Process Supply (PRO)

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.” Auburn Ravine, East Side Canal, and Cross Canal are not included on the list of WQLSs. However, the Sacramento River from Knights Landing to the Delta is a WQLS for Mercury and Unknown Toxicity. A Total Maximum Daily Load (TMDL) for Diazinon has been developed for the same section of the Sacramento River. While Auburn Ravine is not directly affected by the

downstream conditions in the Sacramento River, Effluent Limitations for some of these constituents are included in this Order and discussed in further detail in the Fact Sheet (Attachment F).

Requirements of this Order implement the Basin Plan.

- I. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain water quality criteria for priority pollutants.
- J. State Implementation Policy.** On 2 March 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on 28 April 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on 18 May 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005 that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- K. Compliance Schedules and Interim Requirements.** In general, an NPDES permit must include final effluent limitations that are consistent with Clean Water Act section 301 and with 40 CFR 122.44(d). There are exceptions to this general rule. The State Water Board has concluded that where the Regional Water Board's Basin Plan allows for schedules of compliance and the Regional Water Board is newly interpreting a narrative standard, it may include schedules of compliance in the permit to meet effluent limits that implement a narrative standard. See *In the Matter of Waste Discharge Requirements for Avon Refinery* (State Board Order WQ 2001-06 at pp. 53-55). See also *Communities for a Better Environment et al. v. State Water Resources Control Board*, 34 Cal.Rptr.3d 396, 410 (2005). The Basin Plan for the Sacramento and San Joaquin Rivers includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives that are adopted after the date of adoption of the Basin Plan, which was 25 September 1995 (See Basin Plan at page IV-16). Consistent with the State Water Board's Order in the CBE matter, the Regional Water Board has the discretion to include compliance schedules in NPDES permits when it is including an effluent limitation that is a "new interpretation" of a narrative water quality objective. This conclusion is also consistent with the United States Environmental Protection Agency policies and administrative decisions. See, e.g., *Whole Effluent Toxicity (WET) Control Policy*. The Regional Water Board, however, is not required to include a schedule of compliance, but may issue a Time Schedule Order pursuant to Water Code section 13300 or a Cease and

Desist Order pursuant to Water Code section 13301 where it finds that the discharger is violating or threatening to violate the permit. The Regional Water Board will consider the merits of each case in determining whether it is appropriate to include a compliance schedule in a permit, and, consistent with the Basin Plan, should consider feasibility of achieving compliance, and must impose a schedule that is as short as practicable to achieve compliance with the objectives, criteria, or effluent limit based on the objective or criteria.

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

- L. Alaska Rule.** On 30 March 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 CFR § 131.21; 65 Fed. Reg. 24641 (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. 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.
- N. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD₅ and TSS. The water quality-based effluent limitations consist of restrictions on pathogens. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order includes effluent

limitations for BOD₅, TSS, and pathogens to meet numeric objectives or protect beneficial uses. The rationale for including these limitations is explained in the Fact Sheet.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on 1 May 2001. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless “*applicable water quality standards for purposes of the [Clean Water] Act*” pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order’s restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

O. Antidegradation Policy. Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 is consistent with 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. This Order allows for an increase in regulated flow (from the facility’s Filter Clearwell, INT-001) of 3.3 mgd to up to 8.4 mgd. The Discharger conducted an Antidegradation Analysis for increase of discharge flow up to 12 mgd. The analysis identifies potential degradation due to an increased flow up to 8.4 mgd, as allowed in this Order. The Regional Water Board finds that the identified potential degradation is necessary to support wastewater treatment regionalization and provide an important social and economic benefit to the local community and the people of the State, for the reasons set forth in the Fact Sheet. 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 section 131.12 and State Water Board Resolution No. 68-16.

P. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the existing Permit, with some exceptions where limitations may be relaxed. Effluent limitations in this Order are at least as stringent as the effluent limitations in the existing Order, or as discussed in detail in the Fact Sheet, any relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

- Q. Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- R. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- S. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- T. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.
- 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 of this Order.

III. DISCHARGE PROHIBITIONS

- A. Discharge of wastewater at a location or in a manner different from that described in the Findings is prohibited.
- B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).
- C. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.
- D. The Discharger shall not allow pollutant-free wastewater to be discharged into the collection, treatment, and disposal system in amounts that significantly diminish the

system’s capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.

- E. The Discharger shall not bypass the Ultraviolet (UV) disinfection system prior to discharge to the receiving water except as allowed by Federal Standard Provisions I.G (Attachment D). “Bypass” for preventive or operational maintenance is not allowed unless it meets the conditions of Section I.G.3 (Attachment D).

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Internal Waste Stream Compliance Point, Filter Clearwell - INT-001

Section 122.45(h) of 40 CFR specifies that effluent limitations may be applied to Internal Waste Streams when standards imposed at the point of discharge are impractical or infeasible and only when the Fact Sheet under Section 124.56 of 40 CFR sets forth the circumstances that make the limitations necessary. (See Attachment F, Section IV.B.2.a for further information).

Tertiary treatment or equivalent to tertiary treatment shall be provided prior to discharge to surface water. As specified in 40 CFR Section 122.45(h), as an internal waste stream, treated wastewater entering the Filter Clearwell shall be settled, oxidized, coagulated, filtered, and disinfected to meet tertiary treatment levels. Tertiary treated effluent must have passed through the Filter Clearwell and complied with the Effluent Limitations specified in Table 6a, prior to discharge to the tertiary storage basins or to Auburn Ravine.

- a. Tertiary effluent exiting the tertiary granular medium filters and entering the Filter Clearwell shall not exceed the limits specified in Table 6a.

Table 6a. Final Effluent Limitations - Filter Clearwell – INT-001

Parameter	Units	Effluent Limitations					
		Avg. Monthly	Avg. Weekly	7-Day Median	Avg. Daily	Max. Daily	Inst. Max
BOD 5-day @ 20°C ⁽¹⁾	mg/L	10	15	--	--	20	--
Total Suspended Solids	mg/L	10	15	--	--	20	--
Settleable Solids	ml/L	0.4	--	--	--	0.2	--
Total Coliform Organisms	MPN/100 mL	--	--	2.2	--	23 ⁽²⁾	240 ⁽³⁾

(1) 5-day, 20 °C biochemical oxygen demand.
 (2) The total number of total coliform bacteria shall not exceed an MPN of 23 per 100 ml in more than one sample in any 30-day period.
 (3) No single sample shall exceed an MPN of 240 total coliform bacteria per 100 mL.
 (4) Samples shall not exceed 5 NTU more than 5% of the time within a 24-hour period.

2. Final Effluent Limitations – Discharge Point 001

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

- a. The Discharger shall maintain compliance with the effluent limitations specified in Table 6b:

Table 6b. Final Effluent Limitations– Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Inst. Min.	Inst. Max.
BOD 5-day @ 20°C ⁽¹⁾	mg/L	30 ⁽²⁾	45 ⁽²⁾	60 ⁽²⁾	--	--
	lbs/day ⁽⁴⁾	1050 ⁽³⁾	1580 ⁽³⁾	2100 ⁽³⁾	--	--
Total Suspended Solids	mg/L	30 ⁽²⁾	45 ⁽²⁾	60 ⁽²⁾	--	--
	lbs/day ⁽⁴⁾	1050 ⁽³⁾	1580 ⁽³⁾	2100 ⁽³⁾	--	--
Ammonia	mg/L	0.70	--	2.10	--	--
	lbs/day ⁽⁴⁾	24.5 ⁽³⁾	--	73.6 ⁽³⁾	--	--
Settleable Solids	ml/L	0.1	--	0.2	--	--
Aluminum (Total Recoverable)	ug/L	301	--	750	---	--
Copper (Total Recoverable)	ug/L	3.4	--	7.0	--	--
pPH	--	--	--	--	6.5	8.5

(1) 5-day, 20 °C biochemical oxygen demand.
 (2) Based on 24-hr flow proportional composite.
 (3) Based on an ADWF of 4.2 mgd or approved increase in regulated flow. This mass limitation applies to direct discharge from Filter Clearwell to the receiving water only.
 (4) During periods of pond discharge, the mass shall not exceed the amount calculated from a maximum outfall discharge rate of 12.2 mgd (concentration x 12.2 mgd x 8.34)

- b. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent.

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

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

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

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

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

- ii. 0.019 mg/L, as a 1-hour average;

The total residual chlorine effluent limitations are in effect until the Discharger submits written certification that chlorine-containing chemicals are not added to the treatment or maintenance processes for wastewater discharged to the receiving water.

e.f. Average Dry Weather Flow (ADWF). The ADWF from the Filter Clearwell shall not exceed 4.2 mgd. Upon Discharger certification in accordance with Special Provisions VI.C.5.a the regulated flow from the Filter Clearwell shall increase up to 8.4 mgd (or some smaller increase).

g. Discharge Flow: The discharger flow rate at the effluent outfall shall not exceed and ADWF of 12.2 mgd.

f.h. Aluminum. The concentration of Total Recoverable Aluminum in the effluent shall not exceed an annual average of 200 ug/L.

e.i. Mercury. The total monthly mass discharge of total mercury to Auburn Ravine Creek shall not exceed 0.022 lbs/month when regulated ADWF is 4.2 mgd.

3. Interim Effluent Limitations

The Discharger shall maintain compliance with the following limitations at effluent Discharge Point 001 with compliance measured at Monitoring Location EFF-001, as described in the attached MRP (Attachment E). These interim limitations shall apply in lieu of the corresponding final effluent limitations specified for the same parameters (as applicable) during the time period indicated in this provision.

- a. During the period beginning with the **Effective Date of this Order** and ending **53 years from the date of permit adoption**, the ~~Daily Maximum Monthly Average~~ Aluminum concentration in the effluent shall not exceed ~~280310~~ ug/L. This interim limitation is in lieu of the final monthly average aluminum effluent limitation only.
- b. Beginning the **Effective Date of this Order**, the annual average Electrical Conductivity (at 25 °C) in the effluent shall not exceed 690 umhos/cm.

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications

1. All uses of reclaimed water shall be in accordance with Master Reclamation Permit No. R5-2005-0040, or subsequent orders, issued in accordance with Title 22 of the California Code of Regulations and the California Water Code.

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 Auburn Ravine Creek:

1. **Bacteria.** The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than ten percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL.
2. **Biostimulatory Substances.** Water to contain biostimulatory substances that 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 monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass;
 - b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
 - c. The dissolved oxygen concentration to be reduced below 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 Receiving Water pH to be depressed below 6.5, raised above 8.5, nor changed by more than 0.5, as a annual average.
9. **Pesticides:**
 - a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
 - b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;

- c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by USEPA or the Executive Officer;
 - d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR §131.12.);
 - e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
 - f. Pesticides to be present in concentration in excess of the maximum contaminant levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15;
 - g. Thiobencarb to be present in excess of 1.0 ug/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 annual average temperature to increase more than 5 °F compared to the ambient stream temperature and shall not cause the receiving stream temperature to rise above:
- a. 58 °F on a monthly average and weekly median basis from 1 October through 31 May.

- b. 64 °F at any time from 1 October through 31 May.
 - c. 5 °F over the ambient background temperature as a daily average for the period from 1 June through 30 September.
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:**
- a. The annual average turbidity to increase more than 1 Nephelometric Turbidity Units (NTUs) where natural annual average turbidity is between 0 and 5 NTUs;
 - b. The turbidity to increase:
 - i. More than 20% where natural turbidity is between 5 and 50 NTUs.
 - ii. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.
 - iii. More than 10 % where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations. Release of waste constituents from any storage, treatment, or disposal component associated with the WWTP, in combination with other sources, shall not cause the underlying groundwater to contain waste constituents in concentrations greater than background water quality. Any increase in Total Dissolved Solids (TDS) concentrations or Electrical Conductivity (EC) levels within the monitoring points, when compared to background, shall not exceed the increase typically caused by the percolation discharge of domestic wastewater, and shall not violate water quality objectives, impact beneficial uses, or cause pollution or nuisance.

VI. PROVISIONS

A. Standard Provisions

- 1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
- 2. The Discharger shall comply with the following provisions:
 - a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, Division 3, Chapter 26.
 - b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

- i. Violation of any term or condition contained in this Order;
- ii. Obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;
- iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and
- iv. A material change in the character, location, or volume of discharge.

The causes for modification include:

- *New regulations.* New regulations have been promulgated under Section 405(d) of the Clean Water Act, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.
- *Land application plans.* When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.
- *Change in sludge use or disposal practice.* Under 40 Code of Federal Regulations (CFR) 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

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

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

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

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

- i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or
- ii. Controls any pollutant limited in the Order.

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

- e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
- f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.
- g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by USEPA under Section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.
- h. The discharge of any radiological, chemical or biological warfare agent or high-level, radiological waste is prohibited.
- i. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.
- j. 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.
 - ii. Upon written request by the Regional Water Board the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past five years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Regional Water Board.
 - iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Regional Water Board not approve the existing safeguards, the Discharger shall, within ninety days of having been advised in writing by the Regional Water Board that the

existing safeguards are inadequate, provide to the Regional Water Board and USEPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Regional Water Board, become a condition of this Order.

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

The technical report shall:

- i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.
- ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.
- iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

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

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

proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

- n. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board and USEPA.
- o. The Discharger shall conduct analysis on any sample provided by USEPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to USEPA's DMQA manager.
- p. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.
- q. All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy.
- r. The Discharger shall file with the Regional Water Board technical reports on self-monitoring performed according to the detailed specifications contained in the Monitoring and Reporting Program attached to this Order.
- s. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.
- t. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, sections 13385, 13386, and 13387.
- u. For POTWs, prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (CWC section 1211).
- v. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, 1-hour

average effluent limitation, or receiving water limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Attachment D, Section V.E.1 [40 CFR section 122.41(l)(6)(i)].

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

- a. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.
- b. Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, including:
 - i. If new or amended applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.
 - ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.
- c. **Disinfection.** The Discharger may request the elimination of the chlorine and chlorine by-product related effluent limitations contingent on certification that chlorine is not used in the treatment or maintenance processes. If the Regional Water Board determines that the discharge does not have reasonable potential to cause or contribute to exceedance of criteria for chlorine and/or chlorine byproducts, then this Order may be reopened to consider removal of corresponding limitations and waste discharger requirements.

- d. **Mass Limitations.** The Discharger may complete capacity upgrades of the Facility that increase regulated flow up to 8.4 mgd. This Order may be reopened to include new mass limitations based on actual Facility capacity.
- e. **Mercury.** If mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order shall be reopened and the interim mass effluent limitation modified (higher or lower) or an effluent concentration limitation imposed. If the 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
- f. **Salinity Evaluation and Minimization Plan.** This Order requires the Discharger to prepare and implement a salinity evaluation and minimization plan to address sources of salinity from the municipal wastewater treatment system. The plan shall be completed and submitted to the Regional Water Board within nine (9) months of the effective date of this Order for approval by the Executive Officer. Based on a review of the results of implementation of the salinity evaluation and minimization plan this Order may be reopened for addition and/or modification of effluent limitations and requirements for salinity.

~~g. **Salinity/EC Site-Specific Studies.** This Order requires the Discharger complete and submit a report on the results of Salinity/EC Site-Specific studies to determine appropriate Salinity/EC levels necessary to protect downstream beneficial uses. The studies shall be completed and submitted to the Regional Water Board within 39 months of the adoption date of this Order. Based on a review of the results of the report on the Salinity/EC Site-Specific studies, this Order may be reopened for addition of effluent limitations and requirements for salinity and/or EC.~~

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

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

include a numeric chronic toxicity effluent limitation based on the new provisions.

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

- a. **Chronic Whole Effluent Toxicity.** For compliance with the Basin Plan's narrative toxicity objective, this Order includes a narrative chronic toxicity effluent limitation, requires the Discharger to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). Furthermore, this Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the toxicity numeric monitoring trigger established in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE Work Plan, and take actions to mitigate the impact of the discharge and prevent reoccurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes requirements for the Discharger to develop and submit a TRE Work Plan and includes procedures for accelerated chronic toxicity monitoring and TRE initiation.
- i. **Initial Investigative Toxicity Reduction Evaluation (TRE) Work Plan.** **Within 90 days of the effective date of this Order**, the Discharger shall submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer. This should be a one to two page document including, at minimum:
- a) A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of effluent toxicity, effluent variability, and treatment system efficiency;
 - b) A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and
 - c) A discussion of who will conduct the Toxicity Identification Evaluation (TIE), if necessary (i.e. an in-house expert or outside contractor).
- ii. **Accelerated Monitoring and TRE Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring as required in the Accelerated Monitoring Specifications. WET testing results exceeding the monitoring trigger

during accelerated monitoring demonstrates a pattern of toxicity and requires the Discharger to initiate a TRE to address the effluent toxicity.

- iii. **Numeric Monitoring Trigger.** The numeric toxicity monitoring trigger is $> 1 \text{ TUc}$ (where $\text{TUc} = 100/\text{NOEC}$). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to begin accelerated monitoring and initiate a TRE.
- iv. **Accelerated Monitoring Specifications.** If the monitoring trigger is exceeded during regular chronic toxicity testing, within 14-days of notification by the laboratory of the test results, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of four (4) chronic toxicity tests in a six-week period (i.e. one test every two weeks) using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:
 - a) If the results of four (4) consecutive accelerated monitoring tests do not exceed the monitoring trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.
 - b) If the source(s) of the toxicity is easily identified (i.e. temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.
 - c) If the result of any accelerated toxicity test exceeds the monitoring trigger, and the source(s) of the toxicity are not easily identified as described in item b) of this subsection, the Discharger shall cease accelerated monitoring and initiate a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of the test results exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:
 - 1) Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including TRE WET monitoring schedule;
 - 2) Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
 - 3) A schedule for these actions.

Within sixty (60) days of notification by the laboratory of the test results, the Discharger shall submit to the Regional Water Board a TRE Work Plan for approval by the Executive Officer. The TRE Work Plan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Work Plan must be developed in accordance with EPA guidance².

~~**b. Site-Specific Salinity/EC Study.** The Discharger shall complete and submit a report on the results of a site-specific investigation of appropriate salinity levels in the receiving water to protect agricultural beneficial use in areas irrigated with water from Auburn Ravine Creek and downstream water bodies. The study shall, at minimum, determine the sodium adsorption ratio of soils in the affected area, the effects of rainfall and flood-induced leaching, and background water quality. The study shall evaluate how climate, soil chemistry, background water quality, rainfall, and flooding affect salinity requirements. Based on these factors, the study shall recommend site-specific numeric values for Electrical Conductivity and/or other appropriate salinity constituents to fully protect beneficial uses. The Discharger shall comply with the following time schedule to complete the study:~~

<u>Task</u>	<u>Compliance Date</u>
1. Submit Workplan and Time Schedule	Within 12 months of adoption date of this Order
2. Complete Study	Within three years of the adoption date of this Order
3. Submit Study Report	Within 39 months of the adoption date of this Order

~~**c.b. Groundwater Monitoring. Not Applicable.**~~

3. Best Management Practices and Pollution Prevention

- a. **Salinity Evaluation and Minimization Plan.** The Discharger shall prepare and implement a salinity evaluation and minimization plan to address sources of salinity from the municipal wastewater treatment system. The plan shall be completed and submitted to the Regional Water Board **within 9 months of the adoption date of this Order for approval by the Executive Officer.**
- b. **Salinity Reduction Goal.** The Discharger shall provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to Auburn Ravine. The annual reports shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.).

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

4. Construction, Operation, and Maintenance Specifications

a. Operating Requirements.

- i. The treatment facilities, Tertiary Storage Basins, Emergency Storage Basins, and Maturation Ponds shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
- ii. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
- iii. Ponds shall be managed to prevent breeding of mosquitoes.

- b. **Construction Progress Updates.** The Discharger shall provide monthly updates regarding the proposed and any ongoing construction, including but not limited to; milestones achieved, construction completed, construction started, interrupted processes, and new processes put on line. The monthly updates shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.B).

5. Ultraviolet Disinfection (UV) System Operating Specifications

The Discharger shall operate the UV disinfection system in a manner that, when combined with the filtration process, has been demonstrated to inactivate or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus, in the wastewater. Compliance with the following is sufficient to assure compliance with the virus inactivation/removal requirement:

- a. The Discharger shall operate the treatment system to ensure that turbidity prior to disinfection does not exceed 2 NTU as a daily average, 5 NTU more than 5% of the time within a 24-hour period, and 10 NTU, at any time.
- b. The UV Disinfection System shall apply a minimum UV dose per channel of 100 millijoules per square centimeter (mJ/cm^2) at peak daily flow, unless otherwise approved by the California Department of Public Health.
- c. The Discharger shall maintain an Engineering Report that describes the maximum allowable flowrate in each channel as function of the number of operating banks, the minimum allowable UV intensity sensor reading, and the minimum allowable UV transmittance to maintain the minimum UV dose of $100 \text{ mJ}/\text{cm}^2$ in each channel.
- d. The Discharger shall provide continuous, reliable monitoring of flowrate per channel, UV transmittance, and UV intensity sensor readings to demonstrate compliance with the UV dose requirement.

- e. The quartz sleeves and cleaning system components must be maintained in a manner sufficient to maintain the minimum allowable UV intensity sensor readings, per the Engineering Report.
- f. Lamps and sleeves must be replaced at an interval sufficient to maintain the minimum allowable intensity sensor readings, per the Engineering Report. Lamp age and lamp replacement records must be maintained for a time period consistent with the Standard Provisions.
- g. The facility must be operated in accordance with the operations and maintenance program described in the Engineering Report.

6. Special Provisions for Municipal Facilities (POTWs Only)

- a. **Increase in Regulated Flow.** **Sixty days** after completion of each individual wastewater treatment plant expansion project that increases the facility design flow, the Discharger shall submit a report, certified by a registered Civil Engineer, to the Regional Water Board certifying that the Facility has appropriate capacity to treat its new design flow rate of up to 8.4 mgd, or any other regulated flow.
- b. **Pretreatment Requirements.**
 - i. The Federal Clean Water Act, Section 307(b), and Federal Regulations, 40 CFR Part 403, require publicly owned treatment works to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants, which will interfere with treatment plant operations or sludge disposal, and prevent pass through of pollutants that exceed water quality objectives, standards or permit limitations. Pretreatment requirements are imposed pursuant to 40 CFR Part 403.
 - ii. Upon a regulated flow of 5.0 mgd or greater, the Discharger must implement its approved pretreatment program and the program shall be an enforceable condition of this Order. If the Discharger fails to perform the pretreatment functions, the Regional Water Board, the State Water Board, or the U.S. Environmental Protection Agency (USEPA) may take enforcement actions against the Discharger as authorized by the CWA.
 - iii. The Discharger shall enforce the Pretreatment Standards promulgated under sections 307(b), 307(c), and 307(d) of the Clean Water Act. The Discharger shall perform the pretreatment functions required by 40 CFR Part 403 including, but not limited to:
 - 1) Adopting the legal authority required by 40 CFR 403.8(f)(1);
 - 2) Enforcing the Pretreatment Standards of 40 CFR 403.5 and 403.6;

- 3) Implementing procedures to ensure compliance as required by 40 CFR 403.8(f)(2); and
 - 4) Providing funding and personnel for implementation and enforcement of the pretreatment program as required by 40 CFR 403.8(f)(3).
- iv. The Discharger shall implement, as more completely set forth in 40 CFR 403.5, the necessary legal authorities, programs, and controls to ensure that the following incompatible wastes are not introduced to the treatment system, where incompatible wastes are:
- a) Wastes which create a fire or explosion hazard in the treatment works;
 - b) Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is specially designed to accommodate such wastes;
 - c) Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation or treatment works;
 - d) Any waste, including oxygen demanding pollutants (BOD, *etc.*), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and loss of treatment efficiency;
 - e) Heat in amounts that inhibit or disrupt biological activity in the treatment works, or that raise influent temperatures above 40°C (104°F), unless the Regional Water Board approves alternate temperature limits;
 - f) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
 - g) Pollutants which result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems; and:
 - h) Any trucked or hauled pollutants, except at points predesignated by the Discharger.
- v. The Discharger shall implement, as more completely set forth in 40 CFR 403.5, the legal authorities, programs, and controls necessary to ensure that indirect discharges do not introduce pollutants into the sewerage system that, either alone or in conjunction with a discharge or discharges from other sources:

- a) Flow through the system to the receiving water in quantities or concentrations that cause a violation of this Order, or:
- b) Inhibit or disrupt treatment processes, treatment system operations, or sludge processes, use, or disposal and either cause a violation of this Order or prevent sludge use or disposal in accordance with this Order.

c. 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 (i.e., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a regional water quality control board will satisfy these specifications.
- ii. Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance.
- iii. The treatment of sludge generated at the Facility shall be confined to the Facility property and conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate Groundwater Limitations V.B. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate Groundwater Limitations V.B.
- iv. The use and disposal of biosolids shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503. If the State Water Board and the Regional Water Board are given the authority to implement regulations contained in 40 CFR 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 CFR 503 whether or not they have been incorporated into this Order.

d. 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.

e. Biosolids Storage Requirements

- i. Facilities for the storage of Class B biosolids shall be located, designed, and maintained to restrict public access to biosolids.
- ii. Biosolids storage facilities shall be designed and maintained to prevent washout or inundation from a storm or flood with a return frequency of 100 years.
- iii. Biosolids storage facilities, which contain biosolids, shall be designed and maintained to contain all storm water falling on the biosolids storage area during a rainfall year with a return frequency of 100 years.
- iv. Biosolids storage facilities shall be designed, maintained, and operated to minimize the generation of leachate.

f. Collection System

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

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

- ii. Portions of the wastewater collection system may be outside the service area of the Discharger. In order to assure compliance with Discharge Prohibitions against overflows and bypasses, and to assure protection of the entire collection system and treatment works from industrial discharges, it is necessary that the Discharger control discharges into the system. To control discharges into the entire collection system, the Discharger shall establish interagency agreements with the collection system users. The interagency agreements shall contain, at a minimum, requirements for reporting of unauthorized releases of wastewater, maintenance of the collection system, backup power or adequate wet well

capacity at all pump stations to prevent overflows during power outages and pump failures, and pump station high water alarm notification systems. The agreements shall also require implementation of an industrial pretreatment program that meets the minimum requirements of this permit. The Discharger shall comply with the following time schedule:

Task	Compliance Date
1. Submit interagency agreements for existing connections	90 days after Permit Adoption Date
2. Submit interagency agreements for new connections	30 days prior to connection

7. Other Special Provisions

- a. Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the Department of Public Health (DPH) reclamation criteria, California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22), or equivalent.
- b. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Regional Water Board.

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

8. Compliance Schedules

a. Compliance Schedules for Final Effluent Limitations for Aluminum.

- i. **By 53 years from the adoption date of this Order**, the Discharger shall comply with the final monthly average effluent limitations for aluminum. In an Infeasibility Report dated 22 July 2008, the Discharger submitted a compliance schedule justification for aluminum. The compliance schedule justification included all items specified in Paragraph 3, items (a) through (d), of section 2.1 of the SIP. In the Infeasibility Study, the Discharger

~~requested a 5-year compliance schedule, however, because the final effluent limitation (301 ug/L) is so close to the interim limitation (310 ug/L), Regional Water Board staff consider 3 years to be an adequate compliance schedule. As this compliance schedule is greater than one year, the Discharger shall submit semi-annual progress reports in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1).~~

- ii. **Corrective Action Plan/Implementation Schedule.** The Discharger shall submit to the Regional Water Board a corrective action plan and implementation schedule to assure compliance with the final effluent limitations for aluminum **within 6 months of the adoption date of this Order.**

VII. COMPLIANCE DETERMINATION

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

- A. **BOD and TSS Effluent Limitations.** Compliance with the final effluent limitations for BOD and TSS required in Final Effluent Limitations section IV.A.1.a shall be ascertained by 24-hour composite samples. Compliance with effluent limitations section IV.A.1.b for percent removal shall be calculated using the arithmetic mean of 20°C BOD (5-day) and total suspended solids in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.
- B. **Aluminum Effluent Limitations.** Compliance with the final effluent limitations for aluminum can be demonstrated using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by US EPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer.
- C. **Total Mercury Mass Loading Effluent Limitations (Section IV.A.1.h).** The procedures for calculating mass loadings are as follows:
 1. The total pollutant mass load for each individual calendar month shall be determined using an average of all concentration data collected that month and the corresponding total monthly flow. All monitoring data collected under the monitoring and reporting program, pretreatment program and any special studies shall be used for these calculations.
 2. In calculating compliance, the Discharger shall count all non-detect measures at one-half of the detection level. If compliance with the effluent limitation is not attained due to the non-detect contribution, the Discharger shall improve and implement available analytical capabilities and compliance shall be evaluated with consideration of the detection limits.

- D. **Average Dry Weather Flow Limitations (Section IV.A.1.f and g).** The Average Dry Weather Flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the Average Dry Weather Flow limitations will be determined annually based on the average daily flow over three consecutive dry weather months (e.g. July, August, and September).
- E. **Total Coliform Organisms Effluent Limitations (Section IV.A.1.f).** For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last seven days for which analyses have been completed. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 2.2 per 100 milliliters, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period.
- F. **Mass Effluent Limitations.** Compliance with the mass effluent limitations will be determined during average dry weather periods only when groundwater is at or near normal and runoff is not occurring.
- G. **Chronic Toxicity Effluent Limitation.** Compliance with the narrative chronic toxicity effluent limit is achieved if the chronic toxicity in the effluent is equal to or less than the numeric toxicity trigger of 1TUc. When the numeric toxicity trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring as required in the Accelerated Monitoring Specifications. Chronic testing results exceeding the numeric trigger during accelerated monitoring demonstrates a pattern of toxicity and requires the Discharger to initiate a Toxicity Reduction Evaluation (TRE) to address the effluent toxicity. Compliance with the accelerated monitoring and TRE requirements constitutes compliance with the narrative chronic toxicity effluent limit.

ATTACHMENT A – DEFINITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

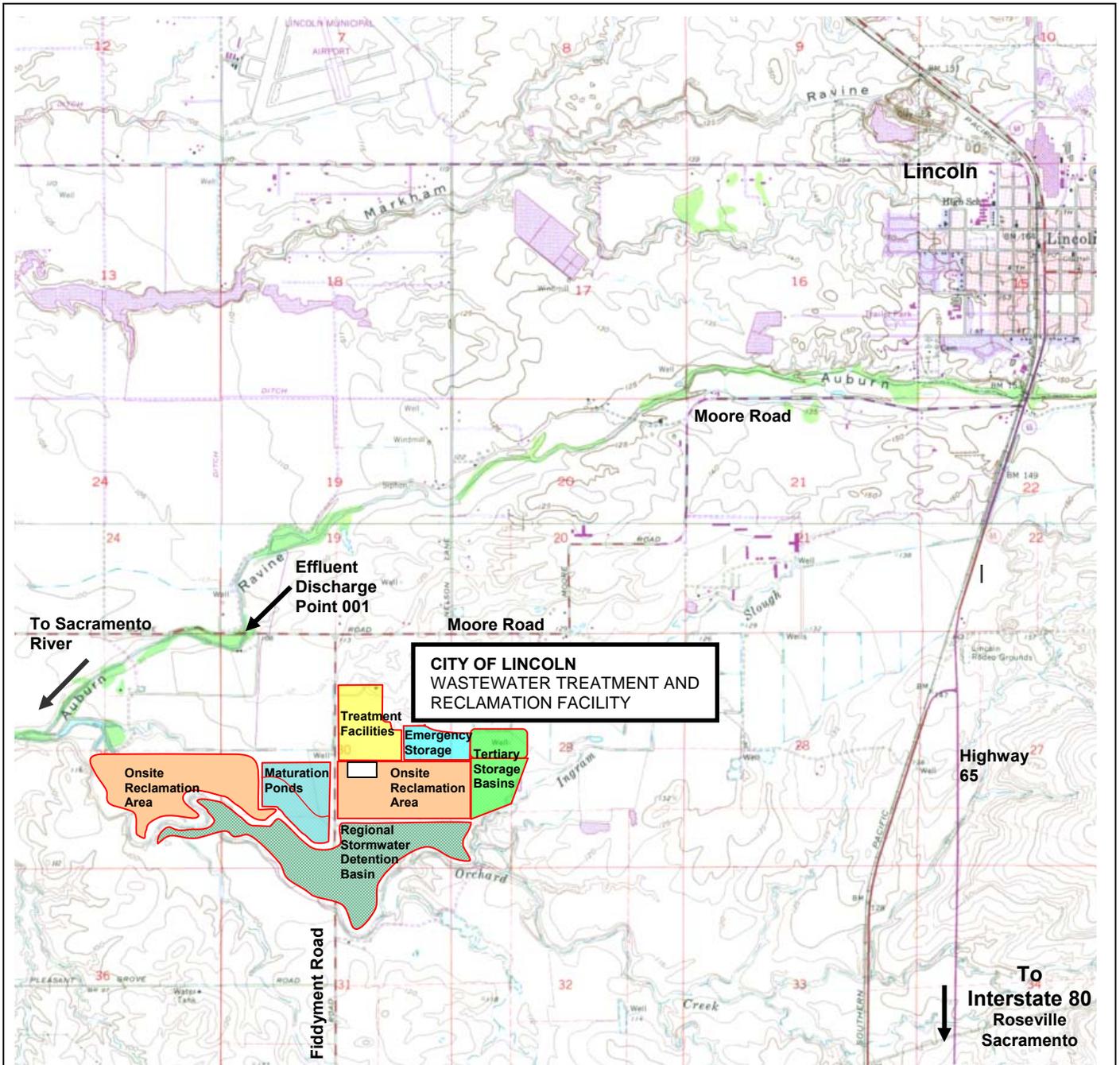
$$\sigma = \left(\frac{\sum[(x - u)^2]}{(n - 1)} \right)^{0.5}$$

where:

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

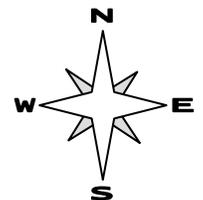
Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps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

ATTACHMENT B – MAP

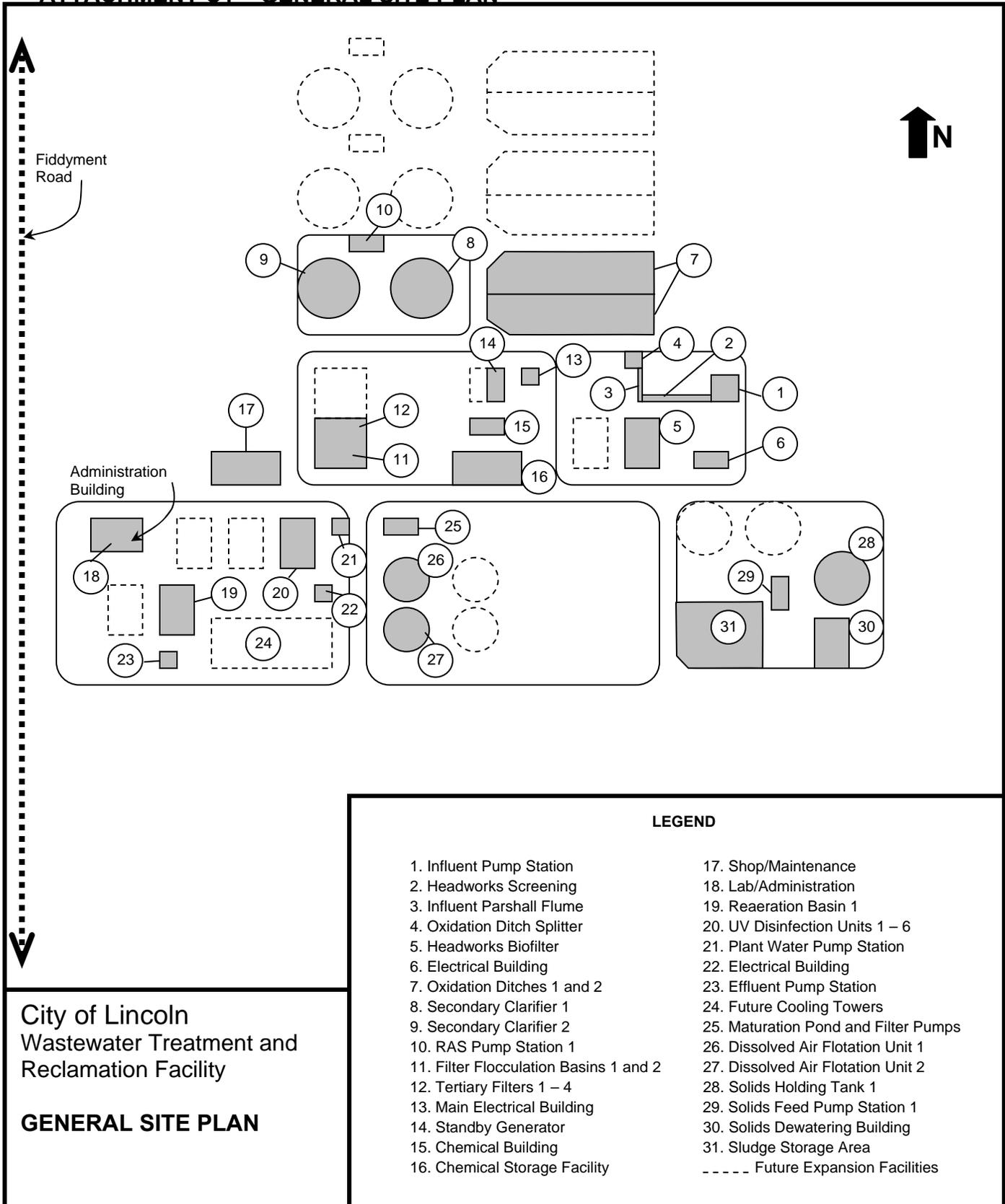


**LINCOLN AND ROSEVILLE
 U.S.G.S TOPOGRAPHIC MAPS**
 7.5 MINUTE QUADRANGLE
 T12N, R6E, Sections 29 and 30
 T12N, R5E, Section 26
*Photorevised 1981
 Not to scale*

CITY OF LINCOLN
**Wastewater Treatment
 and Reclamation Facility**
PLACER COUNTY



ATTACHMENT C1 – GENERAL SITE PLAN



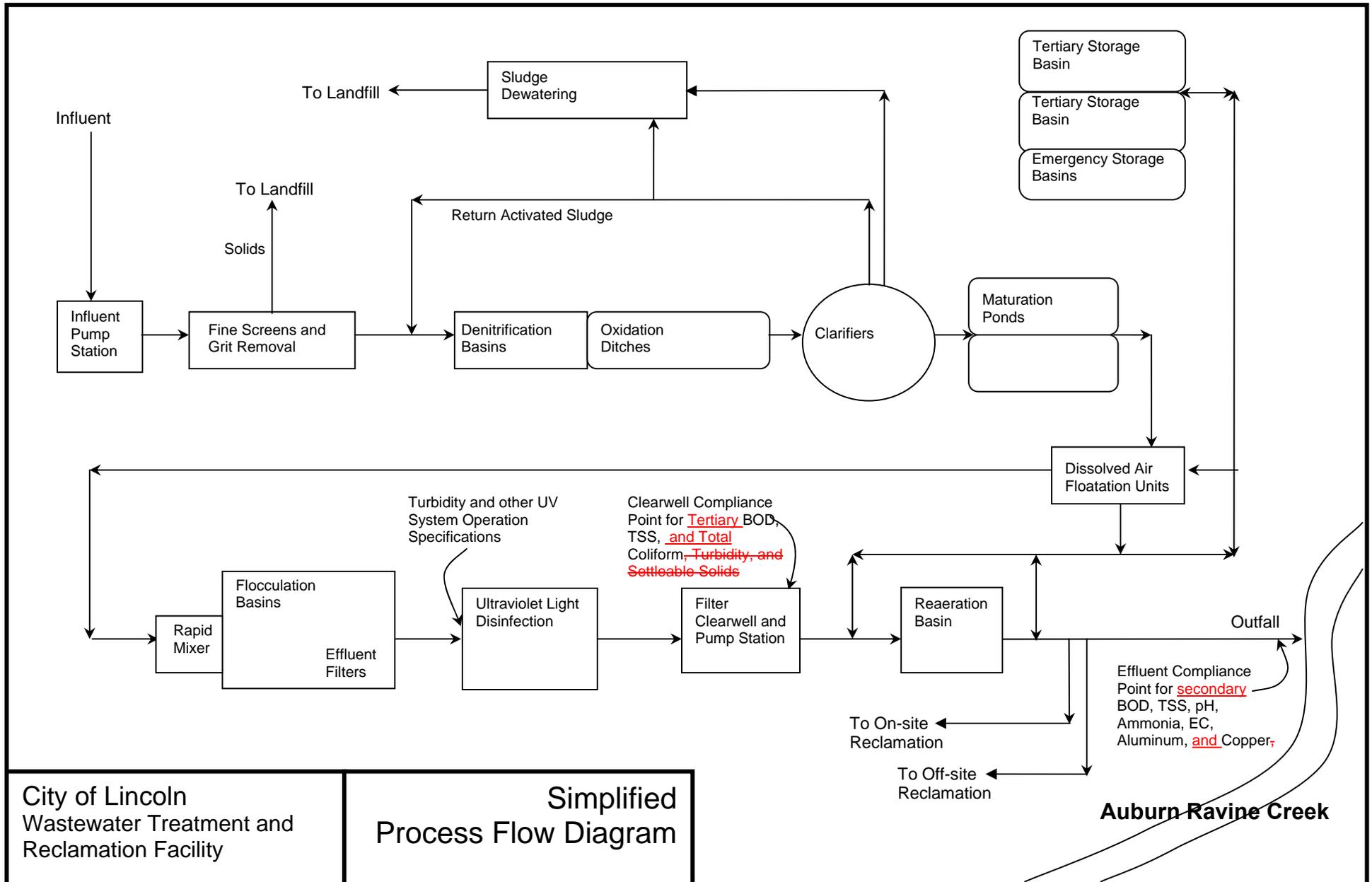
**City of Lincoln
Wastewater Treatment and
Reclamation Facility**

GENERAL SITE PLAN

LEGEND

1. Influent Pump Station	17. Shop/Maintenance
2. Headworks Screening	18. Lab/Administration
3. Inlet Parshall Flume	19. Reaeration Basin 1
4. Oxidation Ditch Splitter	20. UV Disinfection Units 1 – 6
5. Headworks Biofilter	21. Plant Water Pump Station
6. Electrical Building	22. Electrical Building
7. Oxidation Ditches 1 and 2	23. Effluent Pump Station
8. Secondary Clarifier 1	24. Future Cooling Towers
9. Secondary Clarifier 2	25. Maturation Pond and Filter Pumps
10. RAS Pump Station 1	26. Dissolved Air Flotation Unit 1
11. Filter Flocculation Basins 1 and 2	27. Dissolved Air Flotation Unit 2
12. Tertiary Filters 1 – 4	28. Solids Holding Tank 1
13. Main Electrical Building	29. Solids Feed Pump Station 1
14. Standby Generator	30. Solids Dewatering Building
15. Chemical Building	31. Sludge Storage Area
16. Chemical Storage Facility	----- Future Expansion Facilities

ATTACHMENT C2 – FLOW SCHEMATIC



City of Lincoln
 Wastewater Treatment and
 Reclamation Facility

Simplified
 Process Flow Diagram

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR. § 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

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

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); Water Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 CFR § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR § 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR § 122.41(i)(4).)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR § 122.41(m)(2).)

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 section 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

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

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR § 122.41(j)(1).)
- B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 CFR § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 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).)

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); Water 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 section 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 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).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in 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 section 122.29(b) (40 CFR § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

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

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 CFR § 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 CFR § 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 CFR § 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

Attachment E – Monitoring and Reporting Program (MRP)	E-1
I. General Monitoring Provisions	E-1
II. Monitoring Locations	E-1
III. Influent Monitoring Requirements	E-2
A. Monitoring Location INF-001	E-2
IV. Effluent Monitoring Requirements	E-3
1. The Discharger shall monitor tertiary treated wastewater at internal monitoring location (Filter Clearwell) INT- 001 as follows:.....	E-3
B. Monitoring Location EFF-001	E-3
V. Whole Effluent Toxicity Testing Requirements	E-4
VI. Land Discharge Monitoring Requirements – Not Applicable	E-8
VII. Reclamation Monitoring Requirements – not applicable	E-8
VIII. Receiving Water Monitoring Requirements – Surface Water and Groundwater	E-8
A. Monitoring Location Monitoring Location RSW-001 and RSW-002.....	E-8
B. Auburn Ravine Creek Conditions at RSW-001 and RSW-002.....	E-9
IX. Other Monitoring Requirements	E-9
A. Biosolids	E-9
C. Municipal Water Supply	E-10
X. Reporting Requirements	E-11
A. General Monitoring and Reporting Requirements.....	E-11
B. Self Monitoring Reports (SMRs)	E-12
C. Discharge Monitoring Reports (DMRs)	E-14
D. Other Reports	E-14

List of Tables

Table E-1. Monitoring Station Locations	E-2
Table E-2. Influent Monitoring.....	E-2
Table E-3a. Filter Clearwell – Internal Monitoring Location – INT-001	E-3
Table E-3b. Effluent Monitoring - Monitoring Location EFF-001	E-4
Table E-4. Chronic Toxicity Testing Dilution Series	E-6
Table E-5. Receiving Water Monitoring Requirements.....	E-8
Table E-6. Ultraviolet Light Disinfection System Monitoring Requirements	E-10
Table E-7. Municipal Water Supply Monitoring Requirements.....	E-10
Table E-8. Monitoring Periods and Reporting Schedule	E-13
Table E-9. Reporting Requirements for Special Provisions Progress Reports	E-15

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

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

I. GENERAL MONITORING PROVISIONS

- A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.
- B. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Public Health. In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.
- C. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Public Health. Laboratories that perform sample analyses shall be identified in all monitoring reports.
- D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.
- E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	INF-001	Composite sampler after grit chamber and before the Parshall flume.
--	INT-001	Internal Monitoring Location - Filter Clearwell
001	EFF-001	Downstream from the last connection through which wastes can be admitted into the outfall.
--	RSW-001	75 feet upstream from the point of discharge and not influenced by the discharge of effluent.
--	RSW-002	2000 feet downstream from the point of discharge.
--	UVS-001	UV Disinfection System
--	BIO-001	Sludge cake from Centrifuges
--	SPL-001	Municipal water supply tap in Operations Control Building.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. Influent samples shall be collected at approximately the same time as effluent samples are collected and should be representative of the influent for the sampling period.
2. The Discharger shall monitor influent to the facility at Monitoring Location INF-001 as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Min. Sample Freq.	An. Method
Flow	mgd	Meter	Continuous	--
BOD 5-day 20°C	mg/L	24-hr Composite ⁽¹⁾	1/day	(10)
Total Suspended Solids (TSS)	mg/L	24-hr Composite ⁽¹⁾	1/day	(10)
Electrical Conductivity (EC)	umhos/cm	Grab	1/day	(10)
pH	--	Grab	1/day	(10)
Ammonia (as N)	mg/L	Grab	1/day	(10)
Priority Pollutants and Other Constituents of Concern ^{(3), (4), (5), (6), (7), (8), (9)}	ug/L	As appropriate ⁽²⁾	-- ⁽⁹⁾	(10)

- (1) 24-hour flow proportional composite.
- (2) Volatile samples shall be grab samples. ~~The remainder shall be as appropriate, 24-hour composite samples.~~
- (3) See list of constituents in Attachment H
- (4) For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
- (5) Concurrent with effluent sampling.
- (6) Volatile samples and phthalate esters shall be grab samples, the remainder shall be 24-hour flow proportioned composite samples or as appropriate for the individual laboratory analyses. Grab samples may be collected where flow proportioned composite samples are not possible.
- (7) Units are ug/L and lbs/day unless the units are not appropriate for individual constituents.
- (8) Hardness samples shall be collected concurrently with metals samples.
- (9) 1/quarter (for one full year) during the 3rd year of the Permit Term.
- (10) Pollutants shall be analyzed using the analytical methods described in 40 CFR sections 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Board.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Filter Clearwell – Internal Monitoring Location – INT-001

1. The Discharger shall monitor tertiary treated wastewater at internal monitoring location (Filter Clearwell) INT- 001 as follows:

Table E-3a. Filter Clearwell – Internal Monitoring Location– INT-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD 5-day @ 20°C	mg/L	24-hr Composite	1/day	(2)
Total Suspended Solids	mg/L	24-hr Composite	1/day	(2)
Turbidity	NTU	Meter	1/day	(2)
Total Coliform Organisms	MPN/100 mL	Grab ⁽¹⁾	1/day	(2)
Settleable Solids	ml/L	Grab ⁽⁴⁾	1/month	(2)

(1) Grab samples shall not be collected at the same time every day.
 (2) Pollutants shall be analyzed using the analytical methods described in 40 CFR sections 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Board.

B. Monitoring Location EFF-001

1. The discharge of effluent to Auburn Ravine Creek is intermittent. On the first day of each intermittent discharge, the Discharger shall monitor and record data for all constituents listed below, after which, the frequency of analysis provided in Table E-3 shall apply for the duration of each intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.
2. The Discharger shall monitor tertiary treated effluent at monitoring location EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-3b. Effluent Monitoring – Monitoring Location EFF-001

Parameter	Units	Sample Type ⁽⁶⁾	Minimum Sampling Frequency	Required Analytical Method
Flow	mgd	Meter	Continuous	--
pH ^{(7), (9)}	--	Meter	1/day	(15)
BOD 5-day 20°C	mg/L	24-hr Composite (8)	1/day	(15)
Total Suspended Solids	mg/L	24-hr Composite (8)	1/day	(15)
Total Residual Chlorine ⁽¹⁾	mg/L	Grab	1/day during use ⁽¹⁾	(15)

Dissolved Oxygen ⁽¹⁶⁾	mg/L	Grab <u>or Meter</u>	1/day	(15)
Ammonia (as N) ^{(3), (4), (7), (9)}	mg/L	Grab	1/day	(15)
Total Coliform Organisms	MPN/100 mL	Grab	4/day	(15)
Temperature ^{(2), (7), (9)}	°F	Grab	1/day	(15)
Hardness ^{(7), (12), (13)}	mg/L	Grab	3/week	(15)
Electrical Conductivity @ 25°C	umhos/cm	Grab	1/week	(15)
Settleable Solids	mL/L	Grab	1/month	(15)
Total Dissolved Solids	mg/L	Grab	1/month	(15)
Aluminum, Total ^{(5), (11)}	ug/L	Grab	1/month	(15)
Copper, Total ^{(5), (12)}	ug/L	Grab	1/month	(15)
Mercury, Total ⁽⁵⁾	ug/L	Grab	1/quarter	(15)
Methyl Mercury ⁽¹¹⁾	ug/L	Grab	1/quarter	(15)
Priority Pollutants and Other Constituents of Concern ^{(5), (7), (8), (10), (12), (13)}	As Appropriate	As Appropriate	(14)	(15)

(1) Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.011 mg/L. Daily monitoring must begin one week prior to planned chlorine use, continue during use, and continue for one week after chlorine use ceases or until there are seven consecutive days of data (during or after use) that indicates chlorine is not present in the effluent.

(2) Effluent Temperature monitoring shall be at the Outfall location.

(3) Concurrent with biotoxicity monitoring

(4) Report as total.

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

(6) Grab samples shall not be collected at the same time every day.

(7) Concurrent with receiving surface water sampling.

(8) Volatiles and phthalate esters shall be grab samples, the remainder shall be 24-hour flow proportioned composite samples or as appropriate for the individual laboratory analyses. Grab samples may be collected where flow proportioned composite samples are not possible.

(9) Temperature and pH samples shall be collected concurrently with ammonia samples.

(10) Units are ug/L and lbs/day unless the units are not appropriate for individual constituents.

(11) Detection limits shall be below the effluent limitations.

(12) Hardness samples shall be collected concurrently with metals samples.

(13) See Attachment H for the list of CTR Priority Pollutants and Non-CTR Constituents of Concern.

(14) 1/quarter (for one full year) during the 3rd year of the Permit Term.

(15) Pollutants shall be analyzed using the analytical methods described in 40 CFR sections 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Board.

(16) Effluent DO samples shall be collected at the same time as receiving water DO samples. If multiple DO samples are taken the results are to be reported as daily average values and daily minimum value.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

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

1. Monitoring Frequency – the Discharger shall perform quarterly acute toxicity testing, concurrent with effluent ammonia sampling. Sampling frequency is quarterly regardless of whether the discharge is intermittent.
2. Sample Types – For static non-renewal and static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the

discharge. The effluent samples shall be taken at the effluent monitoring location EFF-001.

3. Test Species – Test species shall be fathead minnows (*Pimephales promelas*).
4. Methods – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition and its subsequent amendments or revisions. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.
5. Test Failure – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

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

1. Monitoring Frequency – the Discharger shall perform quarterly three species chronic toxicity testing in calendar quarters in which effluent discharge occurs.
2. Sample Types – Effluent samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location specified in the Monitoring and Reporting Program. The receiving water control shall be a grab sample obtained from sampling location RSW-001, (upstream sampling location that is not influenced by the discharge), as identified in the Monitoring and Reporting Program or as described below in item 7. Dilutions.
3. Sample Volumes – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
4. Test Species – Chronic toxicity testing measures sublethal (e.g. reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:
 - The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
 - The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
 - The green alga, *Selenastrum capricornutum* (growth test).
5. Methods – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving*

Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002 and its subsequent amendments or revisions.

6. **Reference Toxicant** – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.
7. **Dilutions** – The chronic toxicity testing shall be performed using the dilution series identified in Table E-5, below. The receiving water control shall be used as the diluent, unless the receiving water is toxic or is dry upstream of the discharge. In such cases, laboratory control water may be used as the diluent.

If the receiving water is toxic, the receiving water should still be sampled and tested to provide evidence of its toxicity.

8. **Test Failure** – The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:
 - a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or*
 - b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in Table 6 on page 52 of the Method Manual. (A retest is only required in this case if the test results do not exceed the monitoring trigger specified in Special Provisions VI. 2.a.iii.

Table E-4. Chronic Toxicity Testing Dilution Series

Sample	Dilutions (%)					Controls	
	100	75	50	25	12.5	Receiving Water	Laboratory Water
% Effluent	100	75	50	25	12.5	0	0
% Receiving Water ⁽¹⁾	0	25	50	75	87.5	100	0
% Laboratory Water	0	0	0	0	0	0	100

(1) Dilution water shall be taken from Auburn Ravine Creek upstream of the discharger point. When stream flow is absent or toxic, the analyses may be conducted with undiluted effluent. The dilution series may be altered upon approval of Regional Water Board staff.

- C. **WET Testing Notification Requirements.** The Discharger shall notify the Regional Water Board within 24-hrs after the receipt of test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.
- D. **WET Testing Reporting Requirements.** All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:
1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Regional Water Board within 30 days following completion of the test, and shall contain, at minimum:
 - a. The results expressed in TUc, measured as 100/NOEC, and also measured as 100/LC₅₀, 100/EC₂₅, 100/IC₂₅, and 100/IC₅₀, as appropriate.
 - b. The statistical methods used to calculate endpoints;
 - c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);
 - d. The dates of sample collection and initiation of each toxicity test; and
 - e. The results compared to the numeric toxicity monitoring trigger.

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

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.
3. **TRE Reporting.** Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Work Plan.
4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes (if applicable):
 - a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.

- b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.
- c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location Monitoring Location RSW-001 and RSW-002

- 1. Receiving water samples shall be collected at RSW-002 only when effluent discharge is occurring.
- 2. Receiving water samples shall be collected at RSW-001 when there is sufficient upstream flow.
- 3. The Discharger shall monitor Auburn Ravine Creek at Monitoring Locations RSW-001 and RSW-002 as follows:

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Min. Sampling Frequency	Required Analytical Method
Flow	mgd	Grab As appropriate	1/day ⁽²⁾	--
pH ⁽¹⁾	--	Grab	1/day	--
Turbidity	NTU	Grab	1/day	--
Dissolved Oxygen ⁽¹⁾	mg/L	Grab	1/day	--
Temperature ⁽¹⁾	°F (°C)	Grab	1/day	--
Electrical Conductivity @ 25°C	umhos/cm	Grab	1/week	--
Hardness	mg/L	Grab	1/week	--
Ammonia ⁽¹⁾	mg/L	Grab	1/month	--
Fecal Coliform Organisms	MPN/100 ml	Grab	1/quarter	--
CTR Priority Pollutants and Non-CTR Constituents of Concern ^{(3), (4), (5), (6), (7), (8), (9)}	As Appropriate	As Appropriate	1/quarter ⁽¹⁰⁾	As Appropriate

- (1) Temperature and pH shall be monitored at the time of ammonia sample collection.
- ~~(2) Instream flow shall be monitored during periods of discharge to determine the available dilution ratio.~~
- (3) For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
- (4) See Attachment H for list of CTR Priority Pollutants and Non-CTR Constituents of Concern.
- (5) Concurrent with effluent sampling.
- (6) Units are ug/L and lbs/day unless the units are not appropriate for individual constituents.
- (7) Hardness samples shall be collected concurrently with metals samples.
- (8) Volatile samples and phthalate esters shall be grab samples, the remainder shall be 24-hour flow proportioned composite samples or as appropriate for the individual laboratory analyses. Grab samples may be collected where flow proportioned composite samples are not possible.
- (9) Grab samples shall not be collected at the same time every day.
- (10) Analysis required at RSW-001 only; 1/quarter (for 1 full year) during the 3rd year of the Permit Term. (Analysis not required at RSW-2)
- (11) Effluent DO samples shall be collected at the same time as receiving water DO samples. If multiple DO samples are taken the results are to be reported as daily average values and daily minimum value.

B. Auburn Ravine Creek Conditions at RSW-001 and RSW-002

1. While conducting the receiving water sampling at RSW-001 and RSW-002, the Discharger shall also keep a log of the receiving water conditions within the reach bounded by Monitoring Locations RSW-001 and RSW-002. The log and notes shall be submitted with the SMRs as described in the Reporting Requirements in Section X. The presence or absence of each parameter below shall be noted and the presence shall be described:

Condition	Present?		If yes, provide a short description:
	No	Yes	
Aquatic Life			
Bottom Deposits			
Coatings, Films, or Sheens			
Discoloration			
Floating or Suspended Matter			
Flow			
Objectionable Growths, Fungi, Slimes, or Other			
Potential Nuisance Conditions			

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

1. Monitoring Location BIO-001

- a. A composite sample of sludge shall be collected annually at Monitoring Location BIO-001 in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for metals listed in Title 22.
- b. Sampling records shall be retained for a minimum of five years. A log shall be kept of sludge quantities generated and of handling and disposal activities.

The frequency of entries is discretionary; however, the log should be complete enough to serve as a basis for part of the annual report.

B. Ultraviolet Disinfection System

1. Monitoring Location UVS-001

Table E-6. Ultraviolet Disinfection System Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow Rate	mgd	Meter	Continuous
Turbidity ⁽¹⁾	NTU	Meter	Continuous
Number of UV Banks in Operation	Number	Meter	Continuous
UV Transmittance ⁽³⁾	Percent (%)	Meter	Continuous
UV Intensity Sensor Readings ⁽²⁾	mW/cm ²	Meter	Continuous
UV Dose ⁽²⁾	mW-sec/cm ²	Calculated	Continuous

(1) Report daily average and maximum turbidity. If the influent exceeds 10 NTU and is not diverted from discharging to Auburn Ravine Creek, report the duration of the turbidity exceedance.

(2) Report instantaneous daily minimum and daily average UV dose and UV intensity. For UV doses greater than 100 mJ/cm², results may be reported as >100 mJ/cm². If a dose less than 100 mJ/cm² is reported, also report the associated number of banks, flowrate per lamp, intensity sensor readings, and UV transmittance used in the UV dose calculation. If any effluent is discharged to Auburn Ravine Creek having received a UV dose less than 100 mJ/cm², report the duration and dose calculation variables associated with each incident.

(3) Report daily average and daily minimum values.

C. Municipal Water Supply

1. Monitoring Location SPL-001

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

Table E-7. Municipal Water Supply Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Electrical Conductivity @ 25°C ⁽¹⁾	umhos/cm	Grab	1/quarter	--
Standard Minerals ⁽²⁾	mg/L	Grab	1/year	--

(1) If the water supply is from more than one source, the EC shall be reported as a weighted average and include copies of supporting calculations.

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

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. Upon written request of the Regional Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).
3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Regional Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.
4. The Discharger shall report to the Regional Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986.
5. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

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

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

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

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

- d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.
6. **Multiple Sample Data.** When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board’s California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. Monitoring results shall be submitted to the Regional Water Board by the **first day** of the second month following sample collection. Quarterly and annual monitoring results shall be submitted by the **first day of the second month following each calendar quarter, semi-annual period, and year**, respectively.
3. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, concentrations, and mass loading rates (as applicable) are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements. The highest daily maximum for the month, monthly and weekly averages, and medians, and removal efficiencies (%) for BOD and Total Suspended Solids, shall be determined and recorded as needed to demonstrate compliance.
4. With the exception of flow, all constituents monitored on a continuous basis (metered), shall be reported as daily maximums, daily minimums, and daily

averages; flow shall be reported as the total volume discharged per day for each day of discharge.

5. In reporting chlorine residual monitoring data, the Discharger must either report that chlorine is/was not in use or report the start and stop date of chlorine use and corresponding monitoring data.
6. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.
7. A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions.
8. 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

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

Table E-8. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins	Monitoring Period	SMR Due Date
Continuous	First day of calendar month following Permit Effective Date	All	Submit with monthly SMR
Daily	First day of calendar month following Permit Effective Date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	First day of calendar month following Permit Effective Date	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following Permit Effective Date	First day of calendar month through last day of calendar month	45 days from the end of the monitoring period

Quarterly	Closest of 1 January, 1 April, 1 July, or 1 October following permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	45 days from the end of the monitoring period
Semiannually	Closest of 1 January or 1 July following permit effective date	1 January through 30 June 1 July through 31 December	45 days from the end of the monitoring period
Annually	1 January following permit effective date	1 January through 31 December	45 days from the end of the monitoring period

C. Discharge Monitoring Reports (DMRs)

1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The 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, 15 th 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 cannot be accepted unless they follow the exact same format as EPA form 3320-1.

D. Other Reports

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

Table E-9. Reporting Requirements for Special Provisions Progress Reports

Special Provision	Reporting Requirements
Salinity Reduction Goal Progress Report (Special Provisions, Section VI.C.2.c)	1 February , annually
Pretreatment Program Report (Special Provisions, Section VI.C.5.b.iii)	1 February , annually, after implementation of Pretreatment Program
Compliance Schedules for Final Effluent Limitations (Special Provisions, Section VI.C.8.a.i)	1 February and 1 July , twice per year until final compliance

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

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

4. **Annual Operations Report.** By **30 January** of each year, the Discharger shall submit a written report to the Executive Officer containing the following:
 - a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.
 - b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.
 - c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.
 - d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

- e. The Discharger may also be requested to submit an annual report to the Regional Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.
5. **Annual Pretreatment Reporting Requirements.** Upon a regulated flow of 5.0 mgd or greater in this Order, the Discharger shall develop a Pretreatment Program pursuant to 40 CFR Part 403. Additionally, the Discharger shall submit a report annually to the Regional Water Board, with copies to US EPA Region 9 and the State Water Board, describing the Discharger's pretreatment activities over the previous 12 months. In the event that the Discharger is not in compliance with any conditions or requirements of this Order, including noncompliance with pretreatment audit/compliance inspection requirements, then the Discharger shall also include the reasons for noncompliance and state how and when the Discharger shall comply with such conditions and requirements.

An annual report shall be submitted by **1 February** and include at least the following items:

- a. A summary of analytical results from representative, flow proportioned, 24-hour composite sampling of the POTW's influent and effluent for those pollutants EPA has identified under Section 307(a) of the CWA which are known or suspected to be discharged by industrial users.

Sludge shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent sampling and analysis. The sludge analyzed shall be a composite sample of a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period. Wastewater and sludge sampling and analysis shall be performed at least annually. The discharger shall also provide any influent, effluent or sludge monitoring data for nonpriority pollutants which may be causing or contributing to Interference, Pass-Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto.

- b. A discussion of Upset, Interference, or Pass-Through incidents, if any, at the treatment plant, which the Discharger knows or suspects were caused by industrial users of the POTW. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of, the industrial user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent Pass-Through, Interference, or noncompliance with sludge disposal requirements.

- c. The cumulative number of industrial users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.
- d. An updated list of the Discharger's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The Discharger shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to federal categorical standards by specifying which set(s) of standards are applicable. The list shall indicate which categorical industries, or specific pollutants from each industry, are subject to local limitations that are more stringent than the federal categorical standards. The Discharger shall also list the noncategorical industrial users that are subject only to local discharge limitations. The Discharger shall characterize the compliance status through the year of record of each industrial user by employing the following descriptions:
 - i. Complied with baseline monitoring report requirements (where applicable);
 - ii. Consistently achieved compliance;
 - iii. Inconsistently achieved compliance;
 - iv. Significantly violated applicable pretreatment requirements as defined by 40 CFR 403.8(f)(2)(vii);
 - v. Complied with schedule to achieve compliance (include the date final compliance is required);
 - vi. Did not achieve compliance and not on a compliance schedule; and
 - vii. Compliance status unknown.

A report describing the compliance status of each industrial user characterized by the descriptions in items iii through vii above shall be submitted for each calendar quarter **within 21 days of the end of the quarter**. The report shall identify the specific compliance status of each such industrial user and shall also identify the compliance status of the POTW with regards to audit/pretreatment compliance inspection requirements. If none of the aforementioned conditions exist, at a minimum, a letter indicating that all industries are in compliance and no violations or changes to the pretreatment program have occurred during the quarter must be submitted. The information required in the fourth quarter report shall be included as part of the annual report. This quarterly reporting requirement shall commence upon issuance of this Order.

- e. A summary of the inspection and sampling activities conducted by the Discharger during the past year to gather information and data regarding the industrial users. The summary shall include:
 - i. The names and addresses of the industrial users subjected to surveillance and an explanation of whether they were inspected, sampled, or both and the frequency of these activities at each user; and
 - ii. The conclusions or results from the inspection or sampling of each industrial user.

- f. A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of the industrial users affected by the following actions:
 - i. Warning letters or notices of violation regarding the industrial users' apparent noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the apparent violation concerned the federal categorical standards or local discharge limitations.
 - ii. Administrative orders regarding the industrial users noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
 - iii. Civil actions regarding the industrial users' noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
 - iv. Criminal actions regarding the industrial users noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
 - v. Assessment of monetary penalties. For each industrial user identify the amount of the penalties.
 - vi. Restriction of flow to the POTW.
 - vii. Disconnection from discharge to the POTW.

- g. A description of any significant changes in operating the pretreatment program which differ from the information in the Discharger's approved Pretreatment Program including, but not limited to, changes concerning: the program's administrative structure, local industrial discharge limitations, monitoring program or monitoring frequencies, legal authority or enforcement policy, funding mechanisms, resource requirements, or staffing levels.

- h. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.

Duplicate signed copies of these Pretreatment Program reports shall be submitted to the Regional Water Board and the:

State Water Resources Control Board
Division of Water Quality
P.O. Box 944213
Sacramento, CA 94244-2130

and the

Regional Administrator
U.S. Environmental Protection Agency W-5

75 Hawthorne Street
San Francisco, CA 94105

ATTACHMENT F – FACT SHEET

Table of Contents

Attachment F – Fact Sheet	F-1
I. Permit Information	F-1
II. Facility Description	F-2
A. Description of Wastewater and Biosolids Treatment or Controls	F-2
B. Discharge Points and Receiving Waters	F-4
C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data	F-4
D. Compliance Summary	F-5
E. Planned Changes	F-5
III. Applicable Plans, Policies, and Regulations	F-5
A. Legal Authority	F-6
B. California Environmental Quality Act (CEQA)	F-6
C. State and Federal Regulations, Policies, and Plans	F-6
D. Impaired Water Bodies on CWA 303(d) List	F-9
E. Other Plans, Policies and Regulations	F-9
IV. Rationale For Effluent Limitations and Discharge Specifications	F-10
A. Discharge Prohibitions	F-11
B. Technology-Based Effluent Limitations	F-11
1. Scope and Authority	F-11
2. Applicable Technology-Based Effluent Limitations	F-12
C. Water Quality-Based Effluent Limitations (WQBELs)	F-14
1. Scope and Authority	F-14
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives	F-14
3. Determining the Need for WQBELs	F-16
4. WQBEL Calculations	F-31
5. Whole Effluent Toxicity (WET)	F-34
D. Final Effluent Limitations	F-35
1. Mass-based Effluent Limitations	F-35
2. Averaging Periods for Effluent Limitations	F-36
3. Satisfaction of Anti-Backsliding Requirements	F-36
4. Satisfaction of Antidegradation Policy	F-37
E. Interim Effluent Limitations	F-44
F. Land Discharge Specifications	F-47
G. Reclamation Specifications	F-47
V. Rationale for Receiving Water Limitations	F-48
A. Surface Water	F-48
B. Groundwater	F-51
VI. Rationale for Monitoring and Reporting Requirements	F-52
A. Influent Monitoring	F-52
B. Effluent Monitoring	F-52
C. Whole Effluent Toxicity Testing Requirements	F-53
D. Receiving Water Monitoring	F-53
1. Surface Water	F-53
2. Groundwater	F-53
E. Other Monitoring Requirements	F-53

VII. Rationale for Provisions..... F-53

- A. Standard Provisions F-53
- B. Special Provisions F-54
 - 1. Reopener Provisions F-54
 - 2. Special Studies and Additional Monitoring Requirements F-55
 - 3. Best Management Practices and Pollution Prevention..... F-58
 - 4. Construction, Operation, and Maintenance Specifications F-58
 - 5. Special Provisions for Municipal Facilities (POTWs Only)..... F-58
 - 6. Other Special Provisions F-60
 - 7. Compliance Schedules..... F-61

VIII. Public Participation F-61

- A. Notification of Interested Parties..... F-61
- B. Written Comments..... F-62
- C. Public Hearing F-62
- D. Waste Discharge Requirements Petitions F-62
- E. Information and Copying F-63
- F. Register of Interested Persons F-63
- G. Additional Information..... F-63

List of Tables

Table F-1. Facility Information F-1

Table F-2. Historic Effluent Limitations and Monitoring Data F-4

Table F-3a. Summary of Technology-based Effluent Limitations (Internal Waste Stream) . F-13

Table F-3b. Summary of Technology-based Effluent Limitations (Discharge Location) F-13

Table F-4. Salinity Water Quality Criteria/Objectives F-26

Table F-5. Statistics for Aluminum Effluent Limitations..... F-28

Table F-6. Statistics for Ammonia Effluent Limitations F-34

Table F-7. Statistics for Copper Effluent Limitations..... F-29

Table F-8. Summary of Water Quality Based Effluent Limitations F-30

Table F-9a. Detected Effluent CTR Constituents - Antidegradation Analysis F-30

Table F-9b. Detected Effluent non-CTR Constituents - Antidegradation Analysis F-31

Table F-10. Summary of Effluent Limitations..... F-31

Table F-11. Performance-Based Effluent Limitations F-35

ATTACHMENT F – FACT SHEET

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

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility:

Table F-1. Facility Information

WDID	5A31NP00011	
Discharger	City of Lincoln	
Name of Facility	Wastewater Treatment and Reclamation Facility	
Facility Address	1245 Fiddymment Road	
	Lincoln, CA 95648	
	Placer County	
Facility Contact, Title, and Phone	John Pedri, Director of Public Works (City of Lincoln) Chief Plant Operator (ECO:LOGIC)	916-645-8576 916-434-5062 (facility)
Person Authorized to Sign and Submit Reports	John Pedri, Director of Public Works (City of Lincoln)	916-645-8576
Mailing Address	City of Lincoln 640 Fifth Street Lincoln, CA 95648	
Billing Address	Same as Mailing Address	
Contract Operator Address	ECO:LOGIC Consulting Engineers 3875 Atherton Road Rocklin, CA 95765	
Type of Facility	Publicly Owned Treatment Works (POTW)	
Major or Minor Facility	Major	
Threat to Water Quality	1	
Complexity	A	
Pretreatment Program	N (4.2 mgd current ADWF) Y (any regulated flow that exceeds 5 mgd)	
Reclamation Requirements	Master Reclamation Permit Order No. R5-2005-0040, NPDES No. CA0085103	
Facility Permitted Flow	Current (2008)	- 4.2 mgd ADWF
	Future Plant Expansions	- up to 8.4 mgd ADWF (or other increase)
Facility Design Flow	Current (2008)	- 4.2 mgd ADWF
	Upon Certification of Completion	- up to 8.4 mgd ADWF (or other increase)
Watershed	Pleasant Grove Hydrologic Sub Area, Coon-American Hydrologic Area, and Valley-American Hydrologic Unit, of the Sacramento Hydrologic Basin	
Receiving Water	Auburn Ravine Creek (tributary to East Side Canal, Cross Canal, and the Sacramento River)	
Receiving Water Type	Inland Surface Water	

- A.** The City of Lincoln (hereinafter Discharger) is the owner and operator of the Wastewater Treatment and Reclamation Facility (hereinafter Facility), a Publicly Owned Treatment Work (POTW). ECO:LOGIC is currently the contract operator of the Facility.

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

- B.** The Facility discharges wastewater to Auburn Ravine Creek, a water of the United States, and is currently regulated by Order No. 5-01-242, which was adopted on 19 October 2001 and expired on 1 October 2006. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements and 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 Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on 4 April 2006. A site visit was conducted on 3 June 2008, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The Discharger currently provides sewerage service for the community of Lincoln in Placer County, and serves a population of approximately 35,000. The Facility design daily average flow capacity is 4.2 mgd. Expansions of plant capacity during the life of this Permit may allow discharges up to 8.4 mgd (or less). Tertiary treated municipal wastewater is discharged to Auburn Ravine Creek, which is tributary to East Side Canal, Cross Canal, and the Sacramento River.

A. Description of Wastewater and Biosolids Treatment or Controls

The Discharger owns, and ECO:LOGIC Consulting Engineers operates, the municipal wastewater treatment facility, under contract with the Discharger. The Discharger is in the process of dismantling and decommissioning the old treatment and land disposal system. Currently, all wastewater is treated at the existing facility and disposed to Auburn Ravine under the existing NPDES Permit. The existing facility is designed to treat an average daily dry weather flow of 4.2 mgd. The treatment system includes an influent pump station, flow measurement, and fine screening. Activated sludge oxidation ditches (nitrification and de-nitrification), secondary clarifiers, and a return activated sludge (RAS) system provide secondary treatment. Priority pollutant equalization basins (maturation ponds), dissolved air flotation (DAF), chemical coagulation, rapid mix flocculation, and granular medium filtration provide tertiary treatment. Disinfection is provided by ultra violet (UV) light. The facility also includes tertiary storage basins and an emergency storage basin. The equalization basins provide additional removal of priority pollutants, primarily metals and pesticides. The tertiary effluent storage basins allow the Discharger to transfer flow from surface water

discharge to the storage basins in order to (1) not exacerbate downstream flooding and (2) avoid causing adverse impacts to the environment. The Facility discharge capacity is 12.2 mgd and discharge to Auburn Ravine Creek from the storage basins typically exceeds the treatment capacity of 4.2 mgd. Treated tertiary wastewater is discharged to Auburn Ravine Creek. Solids handling facilities include an aerated holding tank, dewatering by centrifuge, storage, and disposal at a landfill and via contract disposal and recycling.

Several tertiary treatment standards must be met in the clearwell, after granular medium filtration, to comply with the California Department of Public Health (DPH) standards for tertiary treated wastewater, rather than at the discharge point, where the Federal Clean Water Act requires the effluent to meet secondary treatment standards. Storage in the tertiary storage basins may result in growth of algae, regrowth of microorganisms, and re-suspension of silts and sediments. When the tertiary treated wastewater, which has already achieved compliance with DPH standards, is removed from the storage basins for discharge to Auburn Ravine Creek, the wastewater may no longer meet the tertiary definitions for BOD₅, TSS, ~~turbidity~~, and total coliform organisms. However, the DPH tertiary standards have been met and no longer require confirmation, therefore, at the point of discharge, Federal standards for secondary treatment are the standards that must be met, resulting in higher effluent limitations for BOD₅ and TSS and no further confirmation of ~~turbidity and~~ total coliform levels.

A turbidity specification is included in this Order as an ultraviolet light disinfection (UV) Disinfection System operational specification prior to disinfection. The operational specification requires that turbidity prior to UV disinfection shall not exceed 2 NTU as a daily average; 5 NTU, more than 5% of the time within a 24-hour period, and an instantaneous maximum of 10 NTU. The previous NPDES permit contained effluent limitations for turbidity rather than UV Disinfection System Operational Specifications. The Operational Specifications for turbidity are equivalent to the ~~former~~ previous effluent limitations for turbidity.

The previous Permit contained a regulated influent Average Dry Weather Flow (ADWF) of 3.3 mgd. This Order provides an immediate increase in regulated ADWF to 4.2 mgd (the current actual design capacity). During the term of this Order, the Discharger may complete construction to increase the design average dry weather flow from 4.2 mgd up to 8.4 mgd (or less) to accommodate growth of the City of Lincoln and/or future implementation of the Placer County wastewater regionalization plan. The wastewater regionalization plan proposes to increase the capacity of the Discharger's Facility to include wastewater from the community of Auburn and other Placer County residents. The existing plant capacity will be increased through construction of additional unit processes as necessary to accommodate additional flows from community growth and/or regionalization. Discharge from the Tertiary Storage Basins, as measured at EFF-001, may not exceed 12.2 mgd.

B. Discharge Points and Receiving Waters

1. The Facility is located in Sections 29 and 30, Township 11 North, Range 6 East, MDB&M, as shown in Attachment B (Figure B-1), a part of this Order.
2. Tertiary treated municipal wastewater is discharged from Discharge Point 001 (see table on cover page) to Auburn Ravine Creek, a water of the United States, and tributary to East Side Canal, Cross Canal, and the Sacramento River, within the Pleasant Grove Hydrologic Sub Area, the Coon-American Hydrologic Area, and the Valley-American Hydrologic Unit of the Sacramento Hydrologic Basin. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

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

Effluent limitations contained in the existing Order for discharges from Discharge Point 001 (Monitoring Location 001) and representative monitoring data from the term of the previous Order are as follows:

Table F-2a. Final Effluent Limitations - Filter Clearwell

Parameter	Units	Effluent Limitations					
		Avg. Monthly	Avg. Weekly	7-Day Median	Avg. Daily	Max. Daily	Inst. Max
BOD 5-day @ 20°C ⁽¹⁾	mg/L	10	15	--	--	20	--
Total Suspended Solids	mg/L	10	15	--	--	20	--
Settleable Solids	ml/L	0.1	--	--	--	0.2	--
Turbidity	NTU	--	--	--	2	5	--
Total Coliform Organisms	MPN/100 mL	--	--	2.2	--	23 ⁽²⁾	240 ⁽³⁾

(1) 5-day, 20 °C biochemical oxygen demand.
(2) The total number of total coliform bacteria shall not exceed an MPN of 23 per 100 ml in more than one sample in any 30-day period.
(3) No single sample shall exceed an MPN of 240 total coliform bacteria per 100 mL.

Table F-2b. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation				Monitoring Data (April 2005 – December 2007)		
		Avg. Monthly	Avg. Weekly	Max Daily	1-Hr Avg	Highest Avg. Monthly Discharge	Highest Avg. Weekly Discharge	Highest Daily Discharge
BOD ⁽¹⁾	mg/L	30	45	60	--	<4.7	6.7	10
	lbs/day ⁽²⁾	826	1240	1650	--	<129	105	275
Total Suspended Solids	mg/L	30	45	60	--	11.9	59.8	78.3
	lbs/day ⁽²⁾	826	1240	1650	--	328	1647	2156
Settleable Solids	ml/L	0.1	--	0.2	--	<0.1	<0.1	0.2
Chlorine Residual	mg/L	0.01	--	0.02	--	ND	ND	ND
Ammonia	mg/L	Calc. ⁽³⁾	--	--	Calc. ⁽³⁾	0.139	--	3.1
Nitrates	mg/L	10	--	--	--	2.6	--	5.9

Parameter	Units	Effluent Limitation				Monitoring Data (April 2005 – December 2007)		
		Avg. Monthly	Avg. Weekly	Max Daily	1-Hr Avg	Highest Avg. Monthly Discharge	Highest Avg. Weekly Discharge	Highest Daily Discharge
	lbs/day ⁽²⁾	275	--	--	--	72	--	162

- (1) 5-Day, 20 °C biochemical oxygen demand (BOD)
- (2) Based on an average dry weather flow of 3.3 mgd. During periods of pond discharge, the mass shall not exceed the amount calculated from a maximum pumping rate of 12.2 mgd.
- (3) Calculated value. See Attachment I of previous permit. The effluent limitations are a function of the pH and temperature.

D. Compliance Summary

The decommissioned (~~4992004~~) Wastewater Treatment Plant experienced numerous violations of the aluminum and copper effluent limitations in existing Order No. 5-01-242, which were applicable to the decommissioned facility, ~~and subject to mandatory penalties. These violations are currently being processed as an Administrative Civil Liability.~~

As the new and well-constructed and -operated tertiary treatment facility came on line in ~~4992004~~, there have not been any reported metals violations and there have been only ~~fourseveral other violations. There was one Total Suspended Solids violation in July 2004 and three~~ total coliform violations that occurred in 2006 and 2007. ~~The coliform violations were non-serious violations that occurred within the first three violations in a six-month period and are exempt from mandatory minimum penalties. The Total Suspended Solids violation was a non-serious violation but subject to a mandatory penalty of \$3,000, which is currently being processed as an Administrative Civil Liability.~~

E. Planned Changes

The previous Permit contained a regulated ADWF of 3.3 mgd. This Order provides an immediate increase in regulated ADWF to 4.2 mgd (the current actual design capacity). During the term of this Order, the Discharger may increase the design average dry weather flow from 4.2 mgd up to 8.4 mgd (or less) to accommodate growth of the City of Lincoln and/or to accommodate the Placer County sewage regionalization plan. The sewage regionalization plan proposes to increase the capacity of the Discharger’s Facility to include wastewater from the City of Auburn and other Placer County communities/residents. The existing plant capacity will be increased through construction of additional unit processes (primarily oxidation ditches) as described above.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authority

See Limitations and Discharge Requirements - [Findings](#), Section II.C.

B. California Environmental Quality Act (CEQA)

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

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised August 2006), for the Sacramento and San Joaquin River Basins* (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Board Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. The beneficial uses of Auburn Ravine Creek downstream of the discharge are municipal and domestic supply, agricultural irrigation; agricultural supply for irrigation; navigation; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; warm migration of aquatic organisms; cold migration of aquatic organisms; warm spawning, reproduction, and/or early development; cold spawning, reproduction, and /or early development; and wildlife habitat.

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.

The beneficial uses of Auburn Ravine Creek are not specifically listed in the Basin Plan. Auburn Ravine Creek is tributary to the Sacramento River, via the East Side Canal and Cross Canal. The Sacramento River, from the Colusa Basin Drain to the I Street Bridge, is the first body of water downstream of Auburn Ravine Creek for which beneficial uses are listed. These beneficial uses are as follows: municipal and domestic supply; agricultural supply for irrigation; navigation; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; warm migration of aquatic organisms; cold migration of aquatic organisms; warm spawning, reproduction, and/or early development; cold spawning, reproduction, and /or early development; and wildlife habitat.

a. Municipal and Domestic Supply; Agricultural Supply

Auburn Ravine Creek is not currently directly used for drinking water supply downstream of the discharge. However, it is used for agricultural supply and there are some homes along the creek where property owners may be exercising riparian rights. Auburn Ravine Creek is an ephemeral stream and may go subsurface during dry months. Therefore, it likely provides groundwater recharge. The Regional Board is required to apply the beneficial uses of municipal and domestic supply to Auburn Ravine Creek based on State Water Board Resolution No. 88-63 which was incorporated in the Basin Plan pursuant to Regional Water Board Resolution No. 89-056.

b. Water Contact and Non-contact Recreation and Esthetic Enjoyment

Auburn Ravine Creek downstream of the discharge is relatively accessible to the public and recreational opportunities exist. The current degree of treatment is adequate to protect public health for recreation.

c. Preservation and Enhancement of Fish, Wildlife, and Other Aquatic Resources

The Basin Plan designates the Sacramento River as being both a cold and warm freshwater habitat. The cold-water designation necessitates that the instream dissolved oxygen concentration be maintained at, or above, 7.0 mg/L.

This Order contains Effluent Limitations requiring a tertiary level of treatment, or equivalent, which is necessary to protect the beneficial uses of the receiving water. The Regional Water Board considered the factors listed in CWC section 13241 in establishing requirements in the previous Permit, as discussed in more detail in Section IV.C.3.k of this Attachment.

2. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal

antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in Section IV.D.4 of this Attachment, the discharge is consistent with the antidegradation provisions of 40 CFR section 131.12 and State Water Board Resolution 68-16.

This Order allows for an increase in regulated flow from 3.3 mgd up to 8.4 mgd. The Discharger conducted an Antidegradation Analysis for increase of discharge flow up to 12 mgd. The analysis identifies potential degradation due to an increased flow up to 8.4 mgd, as allowed in this Order. The Regional Water Board finds that the identified potential degradation is necessary to provide an important social and economic benefit to the local community and the people of the State.

3. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Compliance with the Anti-Backsliding requirements is discussed in Section IV.D.3 of this Attachment.
4. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a), California Water Code, requires that *"the Regional Water Board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective"*.

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

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

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

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

1. Under Section 303(d) of the 1972 Clean Water Act, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 25 July 2003 USEPA gave final approval to California's 2002 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 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 (Red Bluff to Delta) includes: Diazinon, Mercury, and Unknown Toxicity. The Sacramento-San Joaquin Delta is listed for Mercury. The Discharger discharges to Auburn Ravine Creek, which is a tributary of the Sacramento River and the Delta. The Discharger does not discharge directly to the Sacramento River, however, the listings of the Sacramento River as a WQLS for Diazinon, Mercury, and Unknown Toxicity, and of the Delta for Mercury were considered during the development of effluent limitations in this Order.
2. **Total Maximum Daily Loads.** The US EPA requires the Regional Water Board to develop total maximum daily loads (TMDLs) for each 303(d) listed pollutant and water body combination. Auburn Ravine Creek is not an impaired water body. TMDLs are not required for Auburn Ravine Creek.

E. Other Plans, Policies and Regulations

1. The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 *et seq.* (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:
 - a. The waste consists primarily of domestic sewage and treated effluent;
 - b. The waste discharge requirements are consistent with water quality objectives; and
 - c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.
2. The State Water Board adopted the *Water Quality Control Policy for the Enclosed Bays and Estuaries of California*. The requirements within this Order are consistent with the Policy.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

The Federal CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [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 Section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that “*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality.*” Federal Regulations, 40 CFR, §122.44(d)(1)(vi), further provide that “[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits.”

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

water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Regional Water Board's Basin Plan, page IV-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 establish effluent limitations using one or more of three specified sources, including (1) EPA's published water quality criteria, (2) a proposed state criterion (*i.e.*, water quality objective) or an explicit state policy interpreting its narrative water quality criteria (*i.e.*, the Regional Water Board's "Policy for Application of Water Quality Objectives")(40 CFR 122.44(d)(1) (vi) (A), (B) or (C)), or (3) an indicator parameter. The Basin Plan contains a narrative objective requiring that: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*" (narrative toxicity objective). The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, discoloration, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as municipal, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCL) of CCR Title 22. The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

A. Discharge Prohibitions

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.

B. Technology-Based Effluent Limitations

1. Scope and Authority

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

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

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD₅), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations

- a. **BOD₅ and TSS.** Federal Regulations, 40 CFR, Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD₅ and TSS. Tertiary treatment is necessary to protect the beneficial uses of the receiving stream and the effluent limitations for BOD₅ and TSS are based on the technical capability of the tertiary process. BOD₅ is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The secondary and tertiary treatment standards for BOD₅ and TSS are indicators of the effectiveness of the treatment processes. The principal design parameter for wastewater treatment plants is the daily BOD₅ and TSS loading rates and the corresponding removal rate of the system. Secondary Treatment Standards for BOD₅ and TSS loading rates are 30 mg/L as a 30-day average and 45 mg/L as a 7-day average, with 85 % removal. In applying 40 CFR Part 133 for weekly and monthly average BOD₅ and TSS limitations, the application of tertiary treatment processes results in the ability to achieve lower levels for BOD₅ and TSS than the secondary standards currently prescribed. For tertiary effluent limitations, the 30-day average BOD₅ and TSS limitations have been revised to 10 mg/L, which is technically based on the capability of tertiary systems. In addition to the average weekly and average monthly effluent limitations, a daily maximum effluent limitation for BOD₅ and TSS is included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities.

The California Department of Public Health (DPH) has approved specific methodologies for tertiary treatment under the California Code of Regulations. The Regional Water Board concurs with DPH, and for tertiary treatment requires DPH-approved-methods or equivalent treatment. DPH requirements under CCR Title 22 for tertiary treatment include filtration and disinfection with chlorine, or equivalent processes. The Lincoln facility uses UV disinfection rather than chlorine. To obtain DPH approval of the equivalence of the UV process used at the Facility, the Discharger submitted a Title 22 Engineering Report. DPH approved the treatment system and UV process as equivalent to the treatment and disinfection requirements in Title 22.

Section 122.45(h) of 40 CFR specifies that effluent limitations may be applied to Internal Waste Streams when standards imposed at the point of discharge are impractical or infeasible and only when the Fact Sheet under Section 124.56 of 40 CFR sets forth the circumstances that make the limitations necessary. See Attachment F (Fact Sheet) Section IV.B.2 for the required explanation.

The treatment Facility for the City of Lincoln includes Tertiary Storage Basins. After the equivalent of full tertiary treatment, the wastewater may be discharged to Auburn Ravine Creek or may be transferred to Tertiary Storage Basins until conditions in Auburn Ravine Creek are appropriate for disposal. For this treatment process, the tertiary treatment standards required by DPH for BOD₅ and TSS, have been met prior to discharge to the Tertiary Storage Basins. Under the Federal Clean Water Act, only secondary treatment is required for surface water discharge, and the 30-day average BOD₅ and TSS limitations for secondary treatment are adequate. Therefore, it is not necessary to retreat the wastewater from the Tertiary Storage Basins for BOD₅ and TSS removal to meet tertiary standards at the discharge point. However, to maintain the designated beneficial uses of the surface water, before the wastewater from the Tertiary Storage Basins is discharged, it may be necessary to remove algae and particulates by rerouting the wastewater through Dissolved Air Flotation Units. The wastewater may also require an increase in Dissolved Oxygen by rerouting the wastewater through the Reaeration Basin.

This Order contains Tertiary Effluent Limitations for BOD₅ and TSS before discharge to surface water or to the Tertiary Storage Basins. The point of compliance for tertiary treatment is the Filter Clearwell. Secondary Effluent Limitations for BOD₅ and TSS are adequate at the Discharge Point. See Table F-3a for the tertiary BOD₅ and TSS effluent limits required by this Order before discharge to Auburn Ravine or to the Tertiary Storage Basins. See Table 3b for the secondary effluent limitations for BOD₅ and TSS required by this Order.

In addition, 40 CFR 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. If 85 percent removal of BOD₅ and TSS must be achieved by a secondary treatment plant, it must also be achieved by a tertiary (i.e., treatment beyond secondary level) treatment plant. This Order contains a limitation requiring an average of 85 percent removal of BOD₅ and TSS over each calendar month.

Table F-3a. Summary of Tertiary Technology-Based Effluent Limitations - at the Internal Waste Stream Compliance Point, Filter Clearwell - INT-001

Parameter	Units	Effluent Limitations			
		Average Monthly	Average Weekly	Maximum Daily	Average Daily
BOD 5-day @ 20 °C ⁽¹⁾	mg/L	10 ⁽²⁾	15 ⁽²⁾	20 ⁽²⁾	--
Total Suspended Solids (TSS)	mg/L	10 ⁽²⁾	15 ⁽²⁾	20 ⁽²⁾	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Average Weekly	Maximum Daily	Average Daily
(1)	5-Day, 20 °C Biological Oxygen Demand				
(2)	To be ascertained by a 24-hour flow proportional composite				

Table F-3b. Summary of Secondary Technology-Based Effluent Limitations – at Effluent Monitoring Location EFF-001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Inst. Min.	Inst. Max.
BOD 5-day @ 20°C ⁽¹⁾	mg/L	30 ⁽²⁾	45 ⁽²⁾	60 ⁽²⁾	--	--
	lbs/day	1050 ⁽³⁾	1580 ⁽³⁾	2100 ⁽³⁾	--	--
Total Suspended Solids	mg/L	30 ⁽²⁾	45 ⁽²⁾	60 ⁽²⁾	--	--
	lbs/day	1050 ⁽³⁾	1580 ⁽³⁾	2100 ⁽³⁾	--	--

(1) 5-Day, 20 °C Biological Oxygen Demand
(2) To be ascertained by a 24-hour composite
(3) Based on the Average Dry Weather Flow of 4.2 mgd or approved increase in regulated flow. This mass limitation applies to direct discharge from Filter Clearwell to the receiving water only

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

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

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. **Receiving Water.** The Basin Plan does not specifically identify beneficial uses for Auburn Ravine Creek. However, the Basin Plan does identify existing and potential beneficial uses for the Sacramento River (Colusa Basin Drain to the I Street Bridge) to which Auburn Ravine Creek is tributary, via the East Side Canal and Cross Canal. These beneficial uses are as follows: municipal and domestic supply; agricultural supply for irrigation; navigation; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; warm migration of aquatic organisms; cold migration of aquatic organisms; warm spawning, reproduction, and/or early development; cold spawning, reproduction, and/or early development; and wildlife habitat. See Findings, Section II.H and Section III.C of this Attachment for additional discussion of beneficial uses.

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

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

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

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. In the absence of the option of including condition-dependent, “floating” effluent limitations that are reflective of actual conditions at the time of discharge, effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. During low flow conditions the receiving water is ephemeral. To represent the downstream hardness during critical flow conditions, the lowest reported effluent hardness value of 48 mg/L as CaCO₃ was used to establish water quality-based effluent limitations that protect beneficial uses.

- c. **Assimilative Capacity/Mixing Zone.** Based on the available information, the worst-case dilution for Auburn Ravine Creek is assumed to be zero to provide protection for the receiving water beneficial uses. The impact of assuming zero assimilative capacity within the receiving water is that discharge limitations are end-of-pipe limits with no allowance for dilution within the receiving water.
- d. **Effluent Flow.** The previous Permit included a flow limitation of 3.3 mgd. However, the City of Lincoln Wastewater Treatment and Reclamation Facility currently has capacity to provide tertiary level treatment of up to 4.2 mgd. Therefore:
- i. This Order contains an Average Dry Weather Flow (ADWF) limitation of 4.2 mgd.
 - ii. Capacity increases up to 8.4 mgd may require recalculation of mass-based effluent limitations and reopening this Order.

3. Determining the Need for WQBELs

- a. CWA section 301 (b)(1) requires NPDES permits to include effluent limitations that achieve technology-based standards and any more stringent limitations necessary to meet water quality standards. Water quality standards include Regional Water Board Basin Plan beneficial uses and narrative and numeric water quality objectives, State Water Board-adopted standards, and federal standards, including the CTR and NTR. The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, and tastes and odors. The narrative toxicity objective states: *“All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.”* (Basin Plan at III-8.00.) With regards to the narrative chemical constituents objective, the Basin Plan states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, *“...water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)”* in Title 22 of CCR. The narrative tastes and odors objective states: *“Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.”*
- b. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for Aluminum, Ammonia, Chlorine Residual, Copper, Mercury, and Pathogens, ~~and Settleable Solids~~. Water quality-based effluent limitations (WQBELs) for these constituents are included in this Order. A summary of the reasonable potential analysis (RPA) is provided in Attachment G and a detailed discussion of the RPA for each constituent is provided below.
- c. The Regional Water Board conducted the RPA in accordance with Section 1.3 of the SIP. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control.³ The SIP states in the introduction *“The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency.”* Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.

³ See, Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City)

- d. WQBELs were calculated in accordance with section 1.4 of the SIP, as described in Section IV.C.4 of this Attachment.
- e. **Aluminum.** Aluminum criteria, that are applicable to ~~this inland surface receiving waters~~, include the following:

Source	Criteria (ug/L)
California Primary MCL	1000
California Secondary MCL	200
USEPA Freshwater Aquatic Life Criteria (Acute 1-hour Average)	750
USEPA Freshwater Aquatic Life Criteria (Chronic 4-day Average) ⁽¹⁾	87
(1) Criterion is applicable only under conditions of both low pH and low hardness.	

The Regional Water Board has used USEPA’s criteria for prevention of acute and chronic toxicity to implement the Basin Plan’s narrative toxicity objective. The most stringent of these criteria is the chronic criterion of 87 ug/L. This criterion is based on studies conducted on waters with low pH (6.5 to 6.8 pH units) and hardness (<10 mg/L as CaCO₃), conditions not commonly observed in valley floor waters like Auburn Ravine Creek. The criteria are applicable to site-specific cases where the receiving water meets the low hardness and pH conditions.

Between April 2005 and December 2007, hardness measured in Auburn Ravine Creek (downstream of the discharge) ranged between 14 and 82 mg/L as CaCO₃ and the measured pH ranged between 6.5 and 8.0. During the same period, the measured effluent hardness ranged between 48 and 295 mg/L as CaCO₃ and the measured pH ranged between 6.6 and 8.4. The hardness of Auburn Ravine Creek is low, however the pH is not low. Therefore, the chronic criterion of 87 mg/L does not apply under USEPA’s current recommendation. The acute criterion of 750 ug/L does apply under these conditions.

~~Twenty-eight effluent aluminum samples collected between April 2005 and December 2007 ranged in concentration from 5.0 ug/L to a maximum of The Maximum Effluent Concentration (MEC) for aluminum was 310 ug/L, with an average of 67.4 ug/L and a median of 45.5 ug/L. based on 28 samples collected between April 2005 and December 2007.~~ Receiving water samples were not analyzed for aluminum during the same period. The MEC for aluminum exceeded the secondary MCL of 200 ug/L. Therefore, there is reasonable potential for the discharge to cause ~~or~~ contribute to an exceedance of a water quality standard.

The receiving water is an effluent dominated waterbody. Therefore, there is no assimilative capacity for aluminum and a dilution credit cannot be allowed. This

Order contains final Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitations (MDEL) for aluminum of 301~~0.8~~ ug/L and 750 ug/L, respectively, based on USEPA's National Ambient Water Quality Acute Criteria of 750 ug/L for the protection of freshwater aquatic life (See Table F-6 of this Attachment for WQBEL calculations). This Order also contains an annual average Effluent Limitation of 200 ug/L for protection of the municipal and domestic water supply beneficial use of the receiving water.

In USEPA's *Ambient Water Quality Criteria for Aluminum—1988* [EPA 440/5-86-008], USEPA states that “[a]cid-soluble aluminum...is probably the best measurement at the present...”; however, USEPA has not yet approved an acid-soluble test method for aluminum. Replacing the ICP/AES portion of the analytical procedure with ICP/MS would allow lower detection limits to be achieved. Based on USEPA's discussion of aluminum analytical methods, this Order allows the use of the alternate aluminum testing protocol described above to meet monitoring requirements.

The effluent aluminum MEC of 310 ug/L is significantly higher than the MCL of 200 ug/L as an annual average and slightly above the Average Monthly Effluent Limitation of 301 ug/L. Based on the sample results of aluminum in the effluent, the MEC of 310 ug/L is significantly higher than the next highest reported effluent aluminum concentration of 200 ug/L. Reported concentrations of aluminum have never approached the 750 ug/L as a daily maximum effluent limitation and currently there is no threat to exceed this maximum daily limit. ~~It appears that the Discharger may be in immediate noncompliance with new aluminum effluent limitations upon issuance of the permit there may be infrequent violations of the Average Monthly Effluent Limitation of 301 ug/L. In the Infeasibility Report of 22 July 2008, the Discharger reported that the coagulant polyaluminum chloride is currently used at the facility in place of alum. The Discharger has reported the intent to modify operation of the facility and to continue testing coagulants without aluminum and/or less bioavailable aluminum compounds.~~ New or modified control measures may be necessary in order to comply with the effluent limitations, and the new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days. The Basin Plan includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after September 25, 1995 (See Basin Plan at page IV-16). The water quality-based effluent limitations for aluminum are based on a new interpretation of the narrative standard for protection of receiving water beneficial uses. Therefore, based on the technical justification and implementation schedule included in the Discharger's Infeasibility Study Report dated 22 July 2008, a ~~53~~ year schedule for compliance with the aluminum effluent limitations is established in the Order.

An interim~~A statistically-projected~~ performance-based maximum daily effluent limitation ~~of equals 2834 ug/L, has been established in this Order. The interim limitation was determined~~ as described in Section IV.E, below. However, the performance-based limitation is less than the MEC of 310 ug/L. The MEC is

greater than the Average Monthly Effluent Limitation of 301 ug/L and the Discharger may not be able to immediately comply with the Final Monthly Average Effluent Limitation of 301 ug/L. Therefore, a 310 ug/L interim monthly average limit has been established based on the maximum effluent concentrations observed. This Order provides that the final monthly average effluent limitation becomes effective and is in effect beginning with the Effective Date of this Order and ending 53 years from the date of permit adoption. As part of the compliance schedule, this Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final monthly average aluminum effluent limitations.

- f. **Ammonia.** Untreated domestic wastewater contains ammonia. Nitrification is a biological process that converts ammonia to nitrite and nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream. Ammonia is known to cause toxicity to aquatic organisms in surface waters. Discharges of toxic concentrations of ammonia would violate the Basin Plan narrative toxicity objective. Applying 40 CFR section 122.44(d)(1)(vi)(B), it is appropriate to use USEPA's *Ambient National Water Quality Criteria for the Protection of Freshwater Aquatic Life* for ammonia, which was developed to be protective of aquatic organisms.

USEPA's *Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life*, for total ammonia, recommends acute (1-hour average; criteria maximum concentration) standards based on pH and chronic (30-day average, criteria continuous concentration) standards based on pH and temperature. It also recommends a maximum four-day average concentration of 2.5 times the criteria continuous concentration. USEPA found that as pH increased, both the acute and chronic toxicity of ammonia increased. Salmonids were more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia was not influenced by temperature, it was found that invertebrates and young fish experienced increasing chronic toxicity effects with increasing temperature. Because Auburn Ravine Creek has a beneficial use of cold freshwater, the recommended criteria were used for waters where salmonids and early life stages are present. USEPA's recommended criteria are shown below:

$$CCC_{30\text{-day}} = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) \times \text{MIN} \left(2.85, 1.45 \cdot 10^{0.028(25 - T)} \right), \text{ and}$$

$$CMC = \left(\frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}} \right),$$

where T is in degrees Celsius

The previous Order contained effluent limitations for ammonia that required calculation with corresponding pH and hardness levels. New effluent limitations

for ammonia in this Order are fixed year-round limitations that are based on reasonable worst-case conditions. Auburn Ravine Creek is an effluent dominated water body, therefore, effluent temperature and pH data, from the Discharger's monthly monitoring reports between April 2005 and December 2007, were used for the calculation of the new "fixed" effluent limitations.

The CMC for ammonia varies only with pH. The Basin Plan objective for pH in the receiving stream is the range of 6.5 to 8.5 and the maximum permitted effluent pH is 8.5. To calculate an effluent limitation based on acute criteria, the pH of 8.5 was used to determine the CMC for ammonia, which is 2.14 mg N/L as a 1-Hour Average.

The CCC for ammonia varies with pH and temperature. As a chronic criterion, long-term conditions were assessed. The maximum observed 30-day average effluent temperature was 77.5 °F (25.3 °C) for the period ending 21 August 2006. The maximum observed 30-day average receiving water temperature was 71.2 °F (21.8 °C) for the period ending 5 August 2007.

While an average temperature can be easily calculated, an average pH cannot be calculated directly. The pH scale has been devised to express the concentration of H_3O^+ in logarithmic form. By definition,

$$pH = -\log[H_3O^+] \quad \text{or} \quad [H_3O^+] = 10^{-pH}$$

An average pH cannot be directly calculated. In order to represent worst possible conditions, the approach recommended by the USEPA is to select the highest permitted pH of 8.5. This approach has been used in other Orders recently adopted by the Regional Water Board.

Using the highest 30-day average temperature of 77.5 °F (25.3 °C) from the effluent and the pH of 8.5, the CCC was calculated to be 0.64 mg N/L as a 30-Day Average. The USEPA recommended maximum 4-Day Average concentration is 2.5 times the CCC or 1.60 mg N/L as a 4-Day Average.

Concentration-based effluent limitations for ammonia are included in this Order to assure the treatment process adequately nitrifies the waste stream to protect the aquatic habitat beneficial uses. The effluent limitations were calculated using the CMC, CCC, and 2.5 times the CCC. The ammonia effluent limitations are 0.70 mg N/L as the AMEL and 2.10 mg N/L as the MDEL. (See Table F-7 of this Attachment for WQBEL calculations.)

The nitrification process that changes ammonia to nitrate requires oxygen. Depleted oxygen in the receiving stream is detrimental to aquatic life. Therefore, mass-based Effluent Limitations are also included in this Order in accordance with the Code of Federal Regulations, 40 CFR 122.45(f). The mass-based Effluent Limitations were calculated using the AMEL and MDEL and the Average Dry Weather Flow rate of 4.2 mgd. Any other regulated flow

rate up to 8.4 mgd may require calculation of new mass-based effluent limitations and reopening this Order.

The new effluent limitations for ammonia in this Order are fixed year-round limitations that are based on reasonable worst-case conditions. The new effluent limitations replace the previous “floating” limitations that were calculated using data collected during monitoring. The new limitations are more stringent than the previous limitations and the Discharger may experience difficulty with immediate compliance.

The Basin Plan includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after September 25, 1995 (See Basin Plan at page IV-16). The water quality-based effluent limitations for ammonia are based on a new interpretation of the narrative standard for protection of receiving water beneficial uses. Therefore, had the Discharger included the technical justification and an implementation schedule for ammonia in the Discharger’s Infeasibility Study Report dated 22 July 2008, a schedule for compliance with the ammonia effluent limitations could have been established in the Order. However, the Discharger requested seasonal ammonia limitations rather than an interim limitation. After further examination of the data and methodology for calculating an ammonia effluent limitation, it appears that all conditions at the Facility will result in the same outcome; the effluent limitations will be based on the same criterion and long term average that produced the current effluent limitations of 0.70 mg N/L as the AMEL and 2.10 mg N/L as the MDEL.

- g. **Chlorine Residual.** Chlorine is extremely toxic to aquatic organisms. Chlorine is used at the Facility for disinfection and flushing of process piping and appurtenant facilities after contamination with substandard water process piping and appurtenant facilities after contamination with substandard water. The use of chlorine at a wastewater treatment plant presents a reasonable potential for chlorine to be discharged and to cause or contribute to an in-stream excursion above the Basin Plan’s narrative toxicity objective.

The USEPA *Technical Support Document for Water Quality-Based Toxics Control* [EPA/505/2-90-001] contains statistical methods for converting chronic (four-day) and acute (one-hour) aquatic life criteria to average monthly and maximum daily effluent limitations based on the variability of the existing data and the expected frequency of monitoring. However, because chlorine is an acutely toxic constituent that can and will be monitored continuously, an average one-hour limitation is considered more appropriate than an average daily limitation. USEPA’s *Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life* presents the ammonia criteria as Average One-Hour and Four-Day limitations. Effluent Limitations for chlorine residual of 0.011 mg/L as a one-hour average and 0.019 mg/L as a four-day average for chlorine, based on these criteria, are included in this Order.

The previous Permit contains Effluent Limitations for chlorine residual of 0.01 mg/L as a Monthly Average and 0.02 mg/L as a Daily Maximum. However, chlorine residual data submitted by the Discharger between April 2005 and December 2007 indicate that the Discharger can immediately comply with the new more stringent effluent limitations for chlorine residual.

The Discharger uses chlorine in its treatment process on an infrequent and interim basis. In order to ensure that chlorine is not discharged in toxic amounts, the Discharger must implement the following procedures during chlorination:

- i. Daily monitoring must begin one (1) week before planned chlorine use, continue during use, and continue for (1) week after chlorine use stops or until there is one week of data (during and after use) that does not indicate the presence of chlorine residual.
- ii. Effluent must be routed through the maturation ponds. Daily grab samples are sufficient to determine compliance with the Total Residual Chlorine Effluent Limitations.

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

- h. **Copper.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. The criteria for copper are presented in dissolved concentrations. USEPA recommends conversion factors to translate total concentrations to dissolved concentrations. The USEPA default conversion factors for copper in freshwater are 0.96 for both the acute and the chronic criteria. Using the worst-case measured hardness from the effluent and receiving water (48 mg/L as CaCO₃) and the USEPA recommended dissolved-to-total translator, the applicable chronic criterion (maximum four-day average concentration) is 5.0 ug/L and the applicable acute criterion (maximum one-hour average concentration) is 7.0 ug/L, as total recoverable.

The MEC for total copper was 6.2 ug/L, based on 29 samples collected between April 2005 and December 2007. No receiving water samples were analyzed for copper. The MEC exceeded the 5.0 ug/L chronic criterion. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for copper. No dilution is allowed due to periods of no flow in the receiving water. An AMEL and MDEL for total copper of 3.4 ug/L and 7.0 ug/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (See Table F-8 of this Attachment for WQBEL calculations).

- i. **Electrical Conductivity. (see Subsection n. Salinity)**

- j. **Mercury.** The current USEPA Ambient Water Quality Criteria for Protection of Freshwater Aquatic Life, continuous concentration, for mercury is 0.77 ug/L (30-day average, chronic criteria). The CTR contains a human health criterion (based on a one-in-a-million cancer risk) of 0.050 ug/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. The maximum observed effluent mercury concentration was 0.021 ug/L. Downstream of Auburn Ravine Creek, the Sacramento-San Joaquin Delta and the Sacramento River have been listed as impaired water bodies because of mercury, pursuant to Section 303(d) of the Clean Water Act.

Mercury bioaccumulates in fish tissue and, therefore, discharge of mercury to the receiving water is likely to contribute to exceedances of the narrative toxicity objective and impacts on beneficial uses. Because the downstream water bodies have been listed as impaired water bodies for mercury, the discharge must not cause or contribute to increased mercury levels.

This Order contains performance-based Effluent Limitations for mercury based on maintaining the mercury loading at the current level until a total maximum daily load (TMDL) can be established for each water body and USEPA develops mercury standards that are protective of human health. The mass limitations were derived using the maximum observed effluent mercury concentration and the three applicable average daily effluent flow rates. The mass limitations is 0.022 lbs/month (flow = 4.2 mgd). Any other regulated flow rates may require calculation of new mass-based effluent limitations and reopening this Order. Compliance time schedules have not been included since the discharge currently meets the concentration based limitation and the mass limitation can be met through implementation measures and/or by limiting new sewer discharges containing mercury concentrations. If USEPA develops new water quality standards for mercury, this permit may be reopened and the Effluent Limitations adjusted.

- k. **Pathogens.** The beneficial uses of Auburn Ravine Creek include municipal and domestic supply, water contact recreation, and agricultural irrigation supply, and there is, at times, less than 20:1 dilution. To protect these beneficial uses, the Regional Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. The principal infectious agents (pathogens) that may be present in raw sewage may be classified into three broad groups: bacteria, parasites, and viruses. Tertiary treatment, consisting of chemical coagulation, sedimentation, and filtration, has been found to remove approximately 99.5% of viruses. Filtration is an effective means of reducing viruses and parasites from the waste stream. The

wastewater must be treated to tertiary standards (filtered), or equivalent, to protect contact recreational and food crop irrigation uses.

The California Department of Public Health (DPH) has developed reclamation criteria, CCR, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 requires that for spray irrigation of food crops, parks, playgrounds, schoolyards, and other areas of similar public access, wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered, and that the effluent total coliform levels not exceed 2.2 MPN/100 ml as a 7-day median. As coliform organisms are living and mobile, it is impracticable to quantify an exact number of coliform organisms and to establish weekly average limitations. Instead, coliform organisms are measured as a most probable number (MPN) and regulated based on a 7-day median limitation.

Title 22 also requires that recycled water used as a source of water supply for non-restricted recreational impoundments be disinfected tertiary recycled water that has been subjected to conventional treatment. A non-restricted recreational impoundment is defined as “...an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities.” Title 22 is not directly applicable to surface waters; however, the Regional Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by DPH’s reclamation criteria because the receiving water is used for irrigation of agricultural land and for contact recreation purposes. The stringent disinfection criteria of Title 22 are appropriate since the undiluted effluent may be used for the irrigation of food crops and/or for body-contact water recreation. Coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens. The method of treatment is not prescribed by this Order; however, wastewater must be treated to a level equivalent to that recommended by DPH and that consistently achieves the total coliform organism effluent limitations included in this Order.

DPH has approved specific methodologies for tertiary treatment under the California Code of Regulations. The Regional Water Board concurs with DPH, and for tertiary treatment requires DPH-approved-methods or equivalent treatment. DPH requirements under CCR Title 22 for tertiary treatment include filtration and disinfection with chlorine, or equivalent processes. The Lincoln facility uses UV disinfection rather than chlorine. To obtain DPH approval of the equivalence of the UV process used at the Facility, the Discharger submitted a Title 22 Engineering Report. DPH approved the treatment system and UV process as equivalent to the treatment and disinfection requirements in Title 22. For this Facility, the Discharger must operate the UV disinfection system in a manner that, when combined with the filtration process, has been demonstrated to inactivate or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus, in the wastewater. UV Disinfection System Operating Requirements are included in this Order.

Section 122.45(h) of 40 CFR specifies that effluent limitations may be applied to Internal Waste Streams when standards imposed at the point of discharge are impractical or infeasible and only when the Fact Sheet under Section 124.56 of 40 CFR sets forth the circumstances that make the limitations necessary. See Section IV.B.2 above for the required explanation.

The treatment Facility for the City of Lincoln includes Tertiary Storage Basins. After the equivalent of full tertiary treatment, the wastewater may be discharged to Auburn Ravine Creek or may be transferred to Tertiary Storage Basins until conditions in Auburn Ravine Creek are appropriate for disposal. For this treatment process, the tertiary treatment standards required by DPH for Total Coliform Organisms have been met prior to discharge to the Tertiary Storage Basins. The point of compliance for tertiary treatment is the Filter Clearwell after filtration.

Effluent limitations for Total Coliform Organisms are included in this Order based on Title 22 requirements for tertiary treatment. The effluent limitations for total coliform organisms are 2.2 MPN/100 mL as a 7-Day Median, exceedance of 23 MPN/100 mL is permitted only once in 30 days, and 240 MPN/100 mL as an Instantaneous Maximum. The previous NPDES permit contained the same effluent limitations for Total Coliform Organisms. Data, submitted by the Discharger between April 2005 and December 2007, indicate that the Discharger is able to comply with these effluent limitations. Therefore, a compliance schedule for the Total Coliform Organism Effluent Limitations is not appropriate in this Order. In addition, this Order includes UV Disinfection System Operating Requirements for a system that has been demonstrated to inactivate or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus.

In addition to coliform testing, turbidity is used as a second indicator of the effectiveness of the treatment process and to assure compliance with the required level of treatment. The tertiary filtration process for this facility, is capable of reliably meeting a turbidity limitation of 2 nephelometric turbidity units (NTU) as a daily average and the UV Disinfection system requires low turbidity to operate effectively. ~~Failure of the treatment system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity.~~ Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. Coliform testing, by comparison, is not conducted continuously and requires several hours, to days, to identify high coliform concentrations. Therefore, to ensure consistent compliance with the total coliform organism disinfection limitations included in this Order, a turbidity specification is included in this Order as a UV Disinfection System operational specification prior to disinfection. The operational specification requires that turbidity prior to UV disinfection shall not exceed 2 NTU as a daily average; 5 NTU, more than 5% of the time within a 24-hour period, and an instantaneous maximum of 10 NTU.

The previous NPDES permit contained effluent limitations for turbidity rather than UV Disinfection System Operational Specifications. The Operational Specifications are equivalent to the former effluent limitations for turbidity.

The Regional Water Board considered the factors specified in CWC section 13263, including considering the provisions of CWC section 13241, in adopting of the previous NPDES permit, which contained tertiary level effluent limitations above the federal secondary requirements for turbidity and total coliform organisms. This Order continues to require a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water, including water contact recreation and irrigation uses, of Auburn Ravine Creek, and the downstream water bodies to which it is tributary, including the Sacramento River.

- i. **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.” Effluent Limitations for pH were included in the previous Order and are included in this Order based on the Basin Plan objectives for pH.
- m. **Salinity.** The discharge contains total dissolved solids (TDS), chloride, sulfate, and electrical conductivity (EC); water quality parameters that are indicative of the salinity of the water. Their presence in water can be growth limiting to certain agricultural crops and can affect the taste of water for human consumption. There are no USEPA water quality criteria for the protection of aquatic organisms for these constituents. The Basin Plan contains a chemical constituent objective that incorporates State MCLs, contains a narrative objective, and contains numeric water quality objectives for EC, TDS, Sulfate, and Chloride.

Table F-4. Salinity Water Quality Criteria/Objectives

Parameter	Agricultural WQ Goal ¹	Secondary MCL ³	Effluent	
			Avg	Max
EC (umhos/cm)	Varies ²	900, 1600, 2200	440	688
TDS (mg/L)	Varies ²	500, 1000, 1500	263	363
Sulfate (mg/L)	N/A	250, 500, 600	30	45
Chloride (mg/L)	Varies ²	250, 500, 600	58	93

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

2. The EC level in irrigation water that harms crop production depends on the crop type, soil type, irrigation methods, rainfall, and other factors. However, many crops are grown successfully with higher salinities.

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

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

quality goal is intended to protect against adverse effects on sensitive crops when irrigated via sprinklers.

Chloride concentrations in the effluent ranged from 36 mg/L to 93 mg/L, with an average of 60 mg/L, for 12 samples collected by the Discharger from April 2005 through December 2007. Background receiving water samples were not analyzed for chloride. The effluent samples did not exceed the agricultural water quality goal of 106 mg/L.

- ii. **Electrical Conductivity (EC).** The secondary MCL for EC is 900 umhos/cm as a recommended level, 1600 umhos/cm as an upper level, and 2200 umhos/cm as a short-term maximum. The agricultural water quality goal that would apply the narrative chemical constituents objective, is 700 umhos/cm as a long-term average based on Water Quality for Agriculture, Food and Agriculture Organization of the United Nations— Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985). The 700 umhos/cm agricultural water quality goal is intended to prevent reduction in crop yield, i.e. a restriction on use of water, for salt-sensitive crops, such as beans, carrots, turnips, and strawberries. These crops are either currently grown in the area or may be grown in the future. Most other crops can tolerate higher EC concentrations without harm, however, as the salinity of the irrigation water increases, more crops are potentially harmed by the EC, or extra measures must be taken by the farmer to minimize or eliminate any harmful impacts.

A review of the Discharger's monitoring reports from April 2005 through December 2007 shows an average effluent EC of 440 umhos/cm, with a range from 306 umhos/cm to 688 umhos/cm for 459 samples. These levels do not exceed the applicable objectives and there is no reasonable potential to exceed numeric criteria and water quality objectives.

The background receiving water EC averaged 121 umhos/cm and ranged from 20 umhos/cm to 1094 umhos/cm in 85 sampling events collected by the Discharger from the same period. At times the EC concentrations in the receiving water exceed numeric criteria and the narrative water quality objective.

- iii. **Sulfate.** The secondary MCL for sulfate is 250 mg/L as recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum. Sulfate concentrations in the effluent ranged from 25 mg/L to 33 mg/L, with an average of 29 mg/L, for 13 samples collected by the Discharger from April 2005 through December 2007. Background receiving water samples were not analyzed for sulfate. The effluent concentrations did not exceed the secondary MCL recommended level of 250 mg/L.
- iv. **Total Dissolved Solids (TDS).** The secondary MCL for TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum. The recommended agricultural water quality goal for

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

The average TDS effluent concentration was 263 mg/L and ranged from 186 mg/L to 363 mg/L for 26 samples collected by the Discharger from April 2005 through December 2007. These concentrations did not exceed the applicable water quality objectives. The background receiving water samples were not analyzed for TDS during the same period.

- v. **Salinity Effluent Limitations.** Auburn Ravine Creek is an effluent dominated stream and no dilution is allowed due to periods of low flow. A review of the Discharger's monitoring reports from April 2005 through December 2007 shows an average effluent EC of 440 umhos/cm, with a range from 306 umhos/cm to 688 umhos/cm. The monitoring reports also show an average receiving water EC of 120 umhos/cm, with a range from 20 umhos/cm to 1094 umhos/cm. At times, Effluent concentrations of EC approach the screening values ~~at times~~ and receiving water EC concentrations exceed the screening values. The effluent does not cause or contribute to exceedences of concentration-based water quality objectives. However, the Regional Water Board is capping the salinity in the effluent by implementing an interim EC performance based effluent limitation to prevent increase of salt loading to the Sacramento San Joaquin Delta, which is impaired for salinity in some locations, and to protect downstream beneficial uses.

Effluent limitations based on the MCL or the agricultural water quality goal for EC or the Basin Plan water quality objective for TDS, may require construction and operation of a reverse osmosis treatment plant. The State Water Board, in Water Quality Order 2005-005 (for the City of Manteca), states, "*...the State Board takes official notice [pursuant to Title 23 of California Code of Regulations, Section 648.2] of the fact that operation of a large-scale reverse osmosis treatment plant would result in production of highly saline brine for which an acceptable method of disposal would have to be developed. Consequently, any decision that would require use of reverse osmosis to treat the City's municipal wastewater effluent on a large scale would involve thorough consideration of the expected environmental*

effects.” The State Water Board states in that Order, “Although the ultimate solutions to southern Delta salinity problems have not yet been determined, previous actions establish that the State Board intended for permit limitations to play a limited role with respect to achieving compliance with the EC water quality objectives in the southern Delta.” The State Water Board goes on to say, “Construction and operation of reverse osmosis facilities to treat discharges...prior to implementation of other measures to reduce the salt load in the southern Delta, would not be a reasonable approach.”

The Regional Water Board, with cooperation of the State Water Board, has begun the process to develop a new policy for the regulation of salinity in the Central Valley. In a statement issued at the 16 March 2006, Regional Water Board meeting, Board Member Dr. Karl Longley recommended that the Regional Water Board continue to exercise its authority to regulate discharges of salt to minimize salinity increases within the Central Valley. Dr. Longley stated, *“The process of developing new salinity control policies does not, therefore mean that we should stop regulating salt discharges until a salinity Policy is developed. In the meantime, the Board should consider all possible interim approaches to continue controlling and regulating salts in a reasonable manner, and encourage all stakeholder groups that may be affected by the Regional Board’s policy to actively participate in policy development.”*

The Antidegradation Policy (Resolution No. 68-16) requires that the Discharger implement best practicable treatment or control (BPTC) of its discharge. For salinity, the Regional Water Board is considering limiting effluent salinity of municipal wastewater treatment plants to an increment of 500 umhos/cm over the salinity of the municipal water supply as representing BPTC. This Order includes an interim annual average performance-based monthly average effluent limitation of 690 umhos/cm ~~for EC-based on the highest recorded effluent EC concentration recorded between January and December 2007~~ to protect the receiving water from further salinity degradation, ~~but no~~ A final effluent limitation is not included because of insufficient water supply information ~~does not exist~~. Final effluent limitations for salinity based on BPTC ~~will~~ may be established subsequent to the collection and submittal of EC water supply data. This Order requires quarterly monitoring of EC and TDS of the Dischargers water supply.

This Order also requires the Discharger to implement salinity reduction measures to reduce the salinity in its discharge to Auburn Ravine Creek. Specifically, Special Provision VI.C.3.b of the Order requires the Discharger to prepare and implement a Salinity Evaluation and Minimization Plan, and Special Provision VI.C.3.c requires the Discharger to report on progress in reducing salinity discharges to the receiving water. Implementation measures to reduce salt loading may include source control, mineralization reduction, chemical addition reductions, changing to water supplies with

lower salinity, and limiting the salt load from domestic and industrial dischargers. Compliance with these requirements will result in a salinity reduction in the effluent discharged to the receiving water.

~~Additionally, due to lack of information to determine the appropriate EC level in the receiving water to protect beneficial uses, this Order requires the Discharger to conduct a Site-Specific Salinity/EC Study (see Section VI.C.2.b). Information resulting from this Study will be used to determine final effluent limitations for salinity, if necessary, in a subsequent permit renewal or revision.~~

~~n. **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 contains average monthly and maximum daily effluent limitations for settleable solids.~~

~~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. A daily maximum effluent limitation for settleable solids is included in the Order, in lieu of a weekly average, to ensure that the treatment works operate in accordance with design capabilities. The effluent limitations for Settleable Solids in this Order are identical to those in the previous Order. Therefore, a compliance schedule is not necessary.~~

~~o.w. **Temperature.** The Basin Plan requires that, “At no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5 °F above natural receiving water temperature.” The previous Order contained the following site-specific Receiving Water Limitation, Section F.8 (this Order contains a similar limitation) as follows:~~

~~“The discharge shall not cause the following in the receiving water:~~

- ~~8. The annual average temperature to increase more than 5 °F compared to the ambient stream temperature and shall not cause the receiving stream temperature to rise above:~~

~~58 °F on a monthly average and weekly median basis from October 1 through May 31.~~

~~64 °F at any time from October 1 through May 31.~~

~~5 °F over the ambient background temperature as a daily average for the period from 1 June through 30 September.”~~

~~p.x. **Toxicity.** See Section IV.C.5 of this Attachment regarding whole effluent toxicity.~~

4. WQBEL Calculations

- a. Effluent limitations for Aluminum, Ammonia, and Copper were calculated in accordance with section 1.4 of the SIP. The following paragraphs describe the methodology used for calculating effluent limitations.
- b. **Effluent Limitation Calculations.** In calculating effluent limitations based on aquatic life criteria, the effluent concentration allowances (ECAs) were calculated as follows:

$$\begin{aligned}
 ECA_{acute} &= CMC + D(CMC-B) && \text{when } CMC > B \\
 ECA_{chronic} &= CCC + D(CCC-B) && \text{when } CCC > B \\
 ECA_{acute} &= CMC && \text{when } CMC \leq B \quad \text{and when } D = 0 \\
 ECA_{chronic} &= CCC && \text{when } CCC \leq B
 \end{aligned}$$

where:

ECA_{acute}	=	effluent concentration allowance for acute (one-hour average) toxicity criterion
$ECA_{chronic}$	=	effluent concentration allowance for chronic (four-day average) toxicity criterion
CMC	=	criteria maximum concentration (one-hour average)
CCC	=	criteria continuous concentration (four-day average, unless otherwise noted)
D	=	dilution credit
B	=	maximum receiving water concentration

For the human health, agriculture, or other long-term criteria/objectives, the ECA is calculated as follows:

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

where:

ECA_{HH}	=	effluent concentration allowance for human health, agriculture, or other long-term criterion/objective
HH	=	human health, agriculture, or other long-term criterion/objective
D	=	dilution credit
B	=	maximum receiving water concentration

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

AMELs based on human health criteria are set equal to the human health ECAs, and a statistical multiplier is used to calculate the MDEL.

$$\begin{aligned}
 AMEL &= mult_{AMEL} \left[\min \left(\overbrace{M_A ECA_{acute}, M_C ECA_{chronic}} \right) \right] && LTA_{acute} \\
 MDEL &= mult_{MDEL} \left[\min \left(M_A ECA_{acute}, M_C ECA_{chronic} \right) \right] && LTA_{chronic}
 \end{aligned}$$

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

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

c. Water quality-based effluent limitations were calculated for aluminum, ammonia, and copper as follows in Tables F-5 through F-7, below.

Table F-5. Aluminum - WQBEL Calculations

	MCL ⁽⁹⁾	Acute	Chronic
Criteria, total recoverable (ug/L)	200	750 ⁽¹⁾	N/A ⁽¹⁾
Dilution Credit	No Dilution	No Dilution	No Dilution
Translator ⁽²⁾	1.0	1.0	N/A
ECA, total recoverable ⁽³⁾	N/A	750	N/A
ECA Multiplier ⁽⁴⁾	N/A	0.209	N/A
LTA	N/A	156.7	N/A
AMEL Multiplier (95 th %) ⁽⁵⁾⁽⁶⁾	N/A	1.9	⁽⁸⁾
AMEL (ug/L)	N/A	300.8	⁽⁸⁾
MDEL Multiplier (99 th %) ⁽⁷⁾	N/A	4.8	⁽⁸⁾
MDEL (ug/L)	N/A	750.0	⁽⁸⁾
Average Annual EL	200	N/A	N/A

⁽¹⁾ USEPA Water Quality Criteria for the Protection of Freshwater Aquatic Life.
⁽²⁾ EPA Translator used as default.
⁽³⁾ ECA calculated per section 1.4.B, Step 2 of SIP. This allows for the consideration of dilution.
⁽⁴⁾ Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
⁽⁵⁾ Assumes sampling frequency n=>4.
⁽⁶⁾ The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
⁽⁷⁾ The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
⁽⁸⁾ Chronic criterion is not applicable, therefore, limitations based on acute LTA.
⁽⁹⁾ California Department of Public Health Maximum Contaminant Level

Table F-6. Total Ammonia - WQBEL Calculations

	Acute ⁽¹⁾	Chronic (30-day)	Chronic (4-day)
Criteria (mg/L) ⁽²⁾	2.14	0.64	1.60
Dilution Credit	No Dilution	No Dilution	No Dilution
ECA	2.14	0.64	1.60
ECA Multiplier	0.117	0.467	0.204
LTA ⁽³⁾	0.250	0.299	0.327
AMEL Multiplier (95 th %)	2.78	⁽⁴⁾	⁽⁴⁾
AMEL (mg/L)	0.70	⁽⁴⁾	⁽⁴⁾

MDEL Multiplier (99 th %)	8.55	(4)	(4)
MDEL (mg/L)	2.10	(4)	(4)
⁽¹⁾ Calculated at pH = 8.5 (effluent pH maximum) ⁽²⁾ USEPA Ambient Water Quality Criteria ⁽³⁾ LTA developed based on Acute and Chronic ECA Multipliers calculated at 99th percentile level per sections 5.4.1 and 5.5.4 of TSD. ⁽⁴⁾ Acute LTA < 30-Day Chronic LTA (and < 4-Day Chronic LTA), therefore, limitations based on Acute LTA			

Table F-7. Copper - WQBEL Calculations

	Acute	Chronic
Criteria, dissolved (ug/L) ⁽¹⁾	6.73	4.78
Dilution Credit	No Dilution	No Dilution
Translator ⁽²⁾	0.96	0.96
ECA, total recoverable ⁽³⁾	7.0	5.0
ECA Multiplier ⁽⁴⁾	0.304	0.508
LTA	2.1	2.5
AMEL Multiplier (95 th %) ⁽⁵⁾⁽⁶⁾	1.6	⁽⁸⁾
AMEL (ug/L)	3.4	⁽⁸⁾
MDEL Multiplier (99 th %) ⁽⁷⁾	3.3	⁽⁸⁾
MDEL (ug/L)	7.0	⁽⁸⁾
⁽¹⁾ CTR aquatic life criteria, based on a hardness of 48 mg/L as CaCO ₃ . ⁽²⁾ EPA Translator used as default. ⁽³⁾ ECA calculated per section 1.4.B, Step 2 of SIP. This allows for the consideration of dilution. ⁽⁴⁾ Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD. ⁽⁵⁾ Assumes sampling frequency n=>4. ⁽⁶⁾ The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD. ⁽⁷⁾ The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD. ⁽⁸⁾ Chronic LTA > Acute LTA, therefore, limitations based on acute LTA.		

**Summary of Water Quality-Based Effluent Limitations
Discharge Point 001**

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

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

b. Chronic Effluent Toxicity. There shall be no chronic toxicity in the discharge.

b.c. Total Residual Chlorine. Effluent total residual chlorine shall not exceed:

- i. 0.011 mg/L, as a 4-day average;
- ii. 0.019 mg/L, as a 1-hour average;

c. Turbidity. Effluent turbidity shall not exceed:

- i. 2 NTU, as a daily average; and

~~ii. 5 NTU, more than 5% of the time within a 24-hour period.~~

- d. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed:
 - i. 2.2 most probable number (MPN) per 100 mL, as a 7-day median; and
 - ii. 23 MPN/100 mL, more than once in any 30-day period.
- e. **Aluminum.** The concentration of Total Recoverable Aluminum in the effluent shall not exceed an annual average of 200 ug/L.
- f. **Mercury.** The total monthly mass discharge of total mercury to Auburn Ravine Creek shall not exceed 0.022 lbs/month when regulated ADWF is 4.2 mgd.

Table F-8. Summary of Water Quality-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Max. Daily	Inst. Minimum	Inst. Maximum
Aluminum	ug/L	300.81	--	750.0	--	--
Ammonia (as N)	mg/L	0.70	--	2.10	--	--
	lbs/day	24.5 ⁽¹⁾	--	73.6 ⁽¹⁾	--	--
Total Chlorine Residual	mg/L	0.011	--	0.019	--	--
Copper	ug/L	3.4	--	7.0	--	--
Settleable Solids	ml/L	0.4	--	0.2	--	--
pH	--	--	--	--	6.5	8.5
Total Coliform Organisms	MPN/100 ml	--	--	--	--	240
Turbidity	NTU	--	--	--	--	10

(1) Based on ADWF of 4.2 mgd.

5. Whole Effluent Toxicity (WET)

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

- a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at III-8.00) The Basin Plan also states that, “...effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate...”. USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity

Requirements" (pgs. 14-15) it states that, "*In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc.*" Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

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

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

- b. **Chronic Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at III-8.00) Attachment E of this Order requires quarterly chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, Special Provisions VI.C.2.a. requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity is demonstrated.

D. Final Effluent Limitations

1. Mass-based Effluent Limitations.

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

Mass-based effluent limitations were calculated based upon the permitted average dry weather flows allowed in Section IV.A.1.g of the Limitations and Discharge Requirements.

2. Averaging Periods for Effluent Limitations.

Title 40 CFR 122.45 (d) requires average weekly and average monthly discharge limitations for publicly owned treatment works (POTWs) unless impracticable. However, for toxic pollutants and pollutant parameters in water quality permitting, the US EPA recommends the use of a maximum daily effluent limitation in lieu of average weekly effluent limitations for two reasons. *“First, the basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards. Second, a 7-day average, which could comprise up to seven or more daily samples, could average out peak toxic concentrations and therefore the discharge’s potential for causing acute toxic effects would be missed.”* (TSD, pg. 96) This Order uses maximum daily effluent limitations in lieu of average weekly effluent limitations for aluminum, ammonia, chlorine residual⁴, and copper as recommended by the TSD for the achievement of water quality standards and for the protection of the beneficial uses of the receiving stream. Furthermore, for BOD, TSS, pH, ~~and coliform organisms, and turbidity~~, weekly average effluent limitations have been replaced or supplemented with effluent limitations using shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in Section IV.C.3 of this Attachment, above.

3. Satisfaction of Anti-Backsliding Requirements.

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

- a. **Nitrates and Oil and Grease.** Order No. 5-01-242 included effluent limitations for nitrates and for Oil and Grease, while this Order does not. Information in the Discharger’s monthly monitoring reports between April 2005 and December 2007 was not available in 2001, when Order No. 5-01-242 was adopted. The new information indicates that concentrations of nitrates in the effluent are well below the USEPA’s MCL of 10 mg/L and that no concentrations of Oil and Grease were detected in the effluent. Effluent discharged in compliance with effluent limitations in this Order will not cause exceedance of water quality objectives. Use of best professional judgment concludes that effluent monitoring for nitrates and for Oil and Grease is not necessary and is consistent with the antidegradation provisions of 40 CFR 131.12 and State

⁴ This Order applies the USEPA National Ambient Water Quality Criteria for chlorine directly as effluent limitations (1 hour average, acute, and 4-day average, chronic). See Section IV.C.3., above, for rationale regarding the chlorine residual effluent limitations.

Water Resources Control Board Resolution 68-16. Any impact on existing water quality will be insignificant.

- b. **Ammonia.** The previous Order contained effluent limitations for ammonia that required calculation with corresponding pH and hardness levels. New effluent limitations for ammonia in this Order are fixed year-round limitations based on reasonable worst-case conditions. Therefore, the fixed limitations are more stringent than the floating limitations.

c. **Settleable Solids.** The previous Order contained effluent limitations and monitoring requirements for settleable solids. This parameter provides an approximate measure of the quantity of sludge that will be removed by primary sedimentation and/or secondary clarification. This parameter does not provide useful information at a tertiary treatment facility and is therefore not appropriate for this Facility and effluent limitations are unnecessary.

d. e.—**Turbidity.** The previous Order contained effluent limitations for turbidity. The prior limitations for turbidity were solely an operational check to ensure the treatment system was functioning properly and could meet the limits for solids and coliform. The prior effluent limitations were not intended to regulate turbidity in the receiving water. Rather, turbidity is an operational parameter to determine proper system functioning and not a water quality based limitation.

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

The proposed revised operational specifications for turbidity are the same as the effluent limitations in the previous permit, with the inclusion of a more stringent requirement for an instantaneous maximum limit at any time. (See Special Provisions C.5. Ultraviolet Disinfection (UV) System Operating Specifications for turbidity specifications.) The proposed revised permit moves the point of compliance from the final effluent after disinfection to an internal compliance point prior to disinfection. These revisions are consistent with state regulations implementing recycled water requirements.

4. Satisfaction of Antidegradation Policy

~~The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16. This Order provides for increases in the volume and mass of pollutants discharged. The increases will not have significant impacts on aquatic life, which is the beneficial use most likely affected by the pollutants discharged (BOD, suspended solids, chlorine residual, temperature, and metals). The increase will not cause a violation of water quality objectives. The increase in the discharge allows wastewater utility service necessary to accommodate housing and economic~~

~~expansion in the area, and is considered a benefit to the people of the State. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge.~~

This Order provides for an increase in the volume and mass of pollutants discharged and is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16, and guidance provided in State Water Board Administrative Procedure Update (APU) No. 90-004. The following is a summary of the Report of Waste Discharge Antidegradation Analysis (RAA) submitted by the Discharger to evaluate the proposed increase in discharge from 3.3 mgd to 8.4 mgd.

Treated wastewater is currently discharged to Auburn Ravine, a water of the State, which is tributary to the East Side Canal, Cross Canal, and Sacramento River. In addition, treated wastewater is used for land irrigation (reclamation). Auburn Ravine Creek is effluent dominated during a large portion of the year, when water quality is primarily determined by the presence of the existing discharge. The City proposes to increase its wastewater discharge from 3.3 mgd to 4.2 mgd and up to 8.4 mgd during the term of this Order, while expanding its Facility. The planned improvements have a similar treatment process train and will not increase concentrations of pollutants from current conditions. Additionally, expansion of the Facility will allow surrounding dischargers to hook up into this regional facility, thus ceasing their surface water discharges, improving nearby surface water quality, and reducing overall costs to the sewer rate payers.

The antidegradation analysis, in accordance with state and federal policies, analyzes whether the proposed increase in flow potentially lowers the water quality in the receiving water body (Auburn Ravine Creek), whether the increased discharge is protective of the beneficial uses of the receiving water, and whether lowering of the water quality, if any, in the receiving water is consistent with maximum benefit to the people of the State.

a. Water quality parameters and beneficial uses which will be affected by this Order and the extent of the impact. This Order does not impact beneficial uses of the receiving water or downstream receiving waters. All beneficial uses will be maintained and protected. This Order provides for an increase in the volume and mass of pollutants discharged to the receiving water. Code of Federal Regulations 40 CFR 131.12 defines the following tier designations to describe water quality in the receiving water body.

Tier 1: Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. (40 CFR 131.12)

Tier 2: Where the quality of waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water

quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control. (40 CFR 131.12)

b. Effluent Monitoring. The planned treatment plant expansions will include treatment processes that are similar to those already in place. Therefore, the water quality will be unchanged on a concentration basis. The tier designation is assigned on a pollutant-by-pollutant basis. The following Tables 9a and 9b contain a pollutant-by-pollutant assessment of the potential effect on water quality parameters for each constituent, for an increased discharge from 3.3 mgd to 8.4 mgd.

i. CTR Constituents. An assessment of current priority pollutant quality for all detected priority pollutant contaminants is presented in Table 9a above. The peak reported concentrations are the highest concentrations observed to date, consistent with guidance provided by the State Implementation Plan (SIP). The remaining assimilative capacity is the difference between the anticipated water quality objective and the current peak priority pollutant contaminant concentration. With the exception of constituents that have an estimated concentration (DNQ) above the water quality objective, the discharge creates some degree of assimilative capacity for all chemical contaminants. For those contaminants that apparently violate water quality objectives, a negative assimilative capacity is reported. The peak daily mass (in pounds) for all detected contaminants is also reported, with an assessment of available assimilative capacity after discharge. Negative numbers represent instances in which water quality objectives are currently exceeded on a peak concentration basis.

**Table 9a: Detected Effluent CTR Constituents:
Anticipated Water Quality and Assimilative Capacity Analysis**

Constituents	CTR#	Criterion Conc. (ug/L)	Assimilative Capacity at 3.3 mgd ADWF		Assimilative Capacity at 8.4 mgd ADWF		
			Maximum Reported Conc. (ug/L)	Remaining Conc.-Based Assimilative Capacity (ug/L)	Peak Daily Mass Emissions (lbs)	Peak Daily Mass Assimilative Capacity (lbs)	
CTR Constituents with Reasonable Potential							
Acrylonitrile	18	0.059	0.4	J ⁽¹⁾ -0.34	0.03	-0.02	
Pentachlorophenol	53	0.28	1.9	-1.62	0.13	-0.11	
Benzo(a)pyrene	61	0.0044	0.02	J ⁽¹⁾ -0.02	1.40E-03	-1.09E-03	
3,4-Benzofluoranthene	62	0.0044	0.02	J ⁽¹⁾ -1.56E-02	1.40E-03	-1.09E-03	
Dibenzo(a,h)-anthracene	74	0.0044	0.02	J ⁽¹⁾ -0.02	1.40E-03	-1.09E-03	
Indeno(1,2,3-c,d)pyrene	92	0.0044	0.03	J ⁽¹⁾ -0.03	2.10E-03	-1.79E-03	
CTR Constituents with No Reasonable Potential							
Antimony	1	6	0.4	J ⁽¹⁾ 5.60	0.03	0.39	
Arsenic	2	10	2.3	J ⁽¹⁾ 7.70	0.16	0.54	

Chromium (total)	5a	160	1.4	J ⁽¹⁾	158.60	0.10	11.11
Chromium VI	5b	0.2	0.2		0.0E+00	1.40E-02	0.0E+00
Copper	6	7.1	6.2		0.90	0.43	0.06
Lead	7	2.3	0.17		2.13	0.01	0.15
Mercury	8	0.05	0.0021	J ⁽¹⁾	0.05	1.47E-04	3.36E-02
Nickel	9	40	3.9		36.10	0.27	2.53
Selenium	10	5	2	J ⁽¹⁾	3.00	0.14	0.21
Silver	11	2.7	0.04	J ⁽¹⁾	2.66	2.80E-03	1.86E-01
Thallium	12	1.7	0.04	J ⁽¹⁾	1.66	2.80E-03	1.16E-01
Zinc	13	92	44		48.00	3.08	3.36
Cyanide	14	5.2	2.8	J ⁽¹⁾	2.40	0.20	0.17
Chloroform	26	1.1	0.6	J ⁽¹⁾	0.50	0.04	0.04
Methyl Bromide	34	48	0.1	J ⁽¹⁾	47.90	0.01	3.36
Methyl Chloride	35	3	0.08	J ⁽¹⁾	2.92	0.01	0.20
Methylene Chloride	36	4.7	0.2	J ⁽¹⁾	4.50	0.01	0.32
Toluene	39	42	0.4	J ⁽¹⁾	41.60	0.03	2.91
Anthracene	58	9600	0.03	J ⁽¹⁾	9600	2.10E-03	673
Bis(2-ethylhexyl)phthalate	68	1.8	0.66	J ⁽¹⁾	1.14	0.05	0.08
Butyl benzyl phthalate	70	3	1.7	J ⁽¹⁾	1.30	0.12	0.09
Fluoranthene	86	300	0.03	J ⁽¹⁾	229.97	2.10E-03	21.01
Fluorene	87	1300	0.04	J ⁽¹⁾	1299.96	2.80E-03	91.07
Pyrene	100	960	0.02	J ⁽¹⁾	959.98	1.40E-03	67.25
CTR Constituents without Inland Water Quality Criteria (Reasonable Potential Analysis Not Applicable)							
Benzo(g,h,i)perylene	63	--	0.02	J ⁽¹⁾	--	1.40E-03	--
Phenanthrene	99	--	0.4	J ⁽¹⁾	--	2.80E-03	--
CTR Constituents with Failed QC⁽²⁾							
Acenaphthylene	57	--	0.03	J ⁽¹⁾	--	2.10E-03	--
(1) "J" represents Detected but not Quantified (DNQ)							
(2) Failed Quality Control (QC) indicates that the concentration of targeted constituents in the laboratory blanks is equal to or higher than the concentration detected in the effluent samples.							

ii. **Non-CTR Constituents.** An assessment of current effluent quality for all detected non-CTR contaminants is presented in Table 2. The peak reported concentrations are the highest concentrations observed to date, consistent with guidance provided by the State Implementation Plan (SIP) for water quality criteria based on protecting aquatic life. For criteria based on protecting other beneficial uses of the receiving water the average effluent contaminant concentration is presented per recent Regional Board precedent in analysis of NPDES permit effluent limitations. The remaining assimilative capacity is the difference between the anticipated water quality objective and the current peak non-priority pollutant contaminant concentration. Table 9b indicates that the discharge creates some degree of assimilative capacity for all non-CTR contaminants. For those contaminants that currently violate water quality objectives, a negative assimilative capacity would be reported, but there are none. The peak daily mass (in pounds) for all detected contaminants is also reported, with an assessment of available assimilative capacity after discharge.

**Table 9b: Detected Effluent Non-CTR Constituents:
Anticipated Water Quality and Assimilative Capacity Analysis**

Constituents	Units	Criterion Conc.	Assimilative Capacity at 3.3 mgd ADWF	Assimilative Capacity at 8.4 mgd ADWF
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			<u>Maximum Reported Conc.</u>		<u>Remaining Conc.-Based Assimilative Capacity</u>	<u>Peak Daily Mass Emissions (lbs)</u>	<u>Peak Daily Mass Assimilative Capacity (lbs)</u>
Non-CTR Constituents with No Reasonable Potential							
Aluminum (acid soluble)	ug/L	200	70.348 ⁽³⁾		129.65	4.93	9.08
Barium	ug/L	100	26		74.00	1.82	5.18
Nitrate (as N)	mg/L	10	3.406 ⁽³⁾		6.59	238.61	461.95
Fluoride	ug/L	1000	0.1	J ⁽¹⁾	999.90	0.01	70.05
Iron	mg/L	300	0.04	J ⁽¹⁾	299.96	2.80	21014
Manganese	ug/L	50	25	J ⁽¹⁾	25.00	1.75	1.75
Ammonia	mg/L	0.5	0.47		0.03	32.93	2.10
Chloride	mg/L	106	93		13.00	6515	911
Foaming Agents (MBAS)	mg/L	500	0.053	J ⁽¹⁾	500	4	35024
Nitrite (as N)	mg/L	1	0.087	J ⁽¹⁾	0.91	6.09	63.96
Electrical Conductance (EC)	umhos/cm	700	500		200	NA	NA
Total Dissolved Solids (TDS)	mg/L	450	300		150	21017	10508
Sulfate (as SO ₄)	mg/L	250	45		205	3153	14361
Sulfide (as S)	mg/L	0.029	0.023	J ⁽¹⁾	0.01	1.61	0.42
Xylenes	ug/L	17	0.6	J ⁽¹⁾	16.40	0.04	1.15
2,4-D	ug/L	70	0.44		69.56	0.03	4.87
Ethylene Dibromide (EDB)	ug/L	0.0097	0.005	J ⁽¹⁾	4.70E-03	3.50E-04	3.29E-04
Oxamyl	ug/L	50	1.4		48.60	0.10	3.40
Non-CTR Constituents without Inland Water Criteria (Reasonable Potential Analysis Not Applicable)							
Methylmercury	ng/L	--	0.068		--	4.76E-06	--
Hardness	mg/L	--	330		--	23118.48	--
pH		6.5-8.5	9.5		--	NA	--
Phosphorus, Total (as P)	mg/L	--	1.3		--	91.07	--
Phosphate, Total (as P)	mg/L	--	2.7		--	189.15	--
Sulfite (as SO ₃)	mg/L	--	2.6		--	182.15	--
OCDD	pg/L	--	7.37	J ⁽¹⁾	--	5.16E-07	--
Non-CTR Constituent with Failed QC⁽²⁾							
Trichlorotrifluoroethane	ug/L	--	0.45		--	0.03	--
<p>(1) "J" represents Detected but not Quantified (DNQ)</p> <p>(2) Failed Quality Control (QC) indicates that the concentration of targeted constituents in the laboratory blanks is equal to or higher than the concentration detected in the effluent samples.</p> <p>(3) Average concentrations are used in the calculations based on the criterion being established to protect beneficial uses other than aquatic life.</p>							

c. **Receiving Water.** Compliance with the receiving water limitations is based on measuring the impact of the effluent discharge on the receiving water. The impact is measured by comparing the quality of the receiving water upstream of the effluent discharge point to the quality of the receiving water downstream of the effluent discharge point.

i. **Dissolved Oxygen.** Re-aeration facilities constructed as part of the Facility ensure compliance with the DO receiving water limitations. The reaeration facilities will be expanded, as needed, to ensure compliance for any increased wastewater flows.

ii. **pH.** The Facility complies with the permit pH requirements. Based on historical performance, compliance with the pH requirements is anticipated at higher flows.

iii. **Temperature.** In April and May 2005, there were to exceedances of temperature limists. However, since then, successful use of the storage ponds has resulted in compliance with the temperaturte limits and is expected with any increased wastewater flows.

iv. **Turbidity.** The Facility has consistently complied with the turbidity requirements. Based on historical performance, compliance with the turbidity requirements is expected at increased flows.

d. **Scientific Rationale for Determining Potential Lowering of Water Quality.**

The rationale used in the RAA is based on 40 CFR 131.12, USEPA memorandum *Regarding Tier 2 Antidegradation Reviews and Significance Thresholds* (USEPA 2005), USEPA Region 9 *Guidance on Implementing the Antidegradation Provisions of 40 CFR 131.12* (USEPA 1987), State Water Resources Control Board (SWRCB) Resolution No. 68-16, a SWRCB 1987 policy memorandum to the Regional Water Quality Control Boards (RWQCB), and an Administrative Procedures Update (APU 90-004) issued by SWRCB to the RWQCBs. The scientific rationale the Discharger used to determine if this Order allows a lowering of water quality is to determine the reduction of assimilative capacity. Assimilative capacity was calculated on a mass-balanced, concentration basis and, for bioaccumulative constituents, calculated on a mass loading basis. This approach is consistent with recent USEPA guidance and addresses a key objective of the RAA to “[c]ompare receiving water quality to the water quality objectives established to protect designated beneficial uses” (APU 90-004). USEPA has recommended ten (10) percent as a measure of significance for identifying those substantial lowerings of water quality that should receive a full tier 2 antidegradation review. APU 90-004 requires the consideration of “feasible alternative control measures” as part of the procedures for a complete antidegradation analysis. The Discharger analyzed each pollutant detected in the effluent and receiving water to determine if the increased discharge of 8.4 mgd authorized by this Order potentially allows a significant increase of the amount of pollutants present in the downstream receiving water. Pollutants that significantly increased concentration or mass downstream required an alternatives analysis to determine whether implementation of alternatives to the proposed action would be in the best socioeconomic interest of the people of the region, and be to the maximum benefit of the people of the State. Details on the scientific rationale are discussed in detail in the RAA.

The facility is a regional facility. The increase in regulated flow allows other surrounding communities to hook up into this existing treatment and disposal facility, thus ceasing their surface water discharges and improving water quality of other receiving water bodies.

e. **Conclusion.** The proposed increase in effluent discharge to Auburn Ravine Creek will not significantly lower receiving water quality below the existing baseline and will not impact any beneficial uses. Additionally, the increase in regulated flow allows other surrounding dischargers to regionalize into this

Facility. As other dischargers regionalize into this Facility, those individual discharges into other surface waters will cease, increasing the water quality of other surface waters. In addition to the long-term water quality benefit regionalization will provide to the local area, the long-term costs to the local sewer rate payers will be reduced.

f. Justification for Socioeconomic Considerations.

- i. The Discharger currently maximizes production and use of recycled water, and will continue to do so in the future, thereby minimizing discharges to surface waters
- ii. The Order allows for an increase in regulated flow that will support surrounding dischargers in transporting their wastewater for treatment and disposal to this facility, thus ceasing other surface water dischargers, improving water quality in these other surface waters, and reducing long-term costs to the local sewer rate payers;
- iii. The Order is fully protective of beneficial uses of Auburn Ravine Creek. The anticipated water quality changes in Auburn Ravine Creek will not reduce or impair its designated beneficial uses and is consistent with state and federal Antidegradation policies;
- iv. The Discharger operates a wastewater treatment process that meets or exceeds the highest statutory and regulatory requirements which meets or exceeds Best Practical Treatment or Control (BPTC), including tertiary treatment;
- v. The Discharger has implemented reasonable best management practices for non-point source control;
- vi. The Discharger has fully satisfied the requirements of the intergovernmental coordination and public participation provisions of the State’s continuing planning process concurrent with the public participation period of this Order; and
- vii. Proposed changes to comply with new effluent limitations in the Order will further reduce the additional mass loadings.

Table F-910. Summary of Effluent Limitations

Parameter	Units	Effluent Limitations					
		Ave. Monthly	Ave. Weekly	Ave. Daily	Max. Daily	Inst. Min.	Inst. Max.
BOD 5-day @ 20°C ^{(1), (4)}	mg/L	10 ⁽²⁾	15 ⁽²⁾	--	20 ⁽²⁾	--	--
BOD 5-day @ 20°C ^{(1), (5)}	mg/L	30 ⁽²⁾	45 ⁽²⁾	--	60 ⁽²⁾	--	--
	lbs/day	1050 ⁽³⁾	1580 ⁽³⁾	--	2100 ⁽³⁾	--	--
Total Suspended Solids ⁽⁴⁾	mg/L	10 ⁽²⁾	15 ⁽²⁾	--	20 ⁽²⁾	--	--

Parameter	Units	Effluent Limitations					
		Ave. Monthly	Ave. Weekly	Ave. Daily	Max. Daily	Inst. Min.	Inst. Max.
Total Suspended Solids ⁽⁵⁾	mg/L	30 ⁽²⁾	45 ⁽²⁾	--	60 ⁽²⁾	--	--
	lbs/day	1050 ⁽³⁾	1580 ⁽³⁾	--	2100 ⁽³⁾	--	--
Ammonia	mg/L	0.70	--	--	2.10	--	--
	lbs/day	24.5 ⁽³⁾	--	--	73.6 ⁽³⁾	--	--
Total Chlorine Residual	mg/L	0.011	--	--	0.019	--	--
Settleable Solids	ml/L	0.1	--	--	0.2	--	--
Aluminum	ug/L	301	--	--	750	--	--
Copper	ug/L	3.4	--	--	7.0	--	--
pH	--	--	--	--	--	6.5	8.5
Total Coliform Organisms	MPN/100 mL	--	--	--	--	--	240
Turbidity	NTU	--	--	--	--	--	10
Avg. Dry Weather Flow	mgd	--	--	4.2	--	--	--

(1) 5-day, 20 °C biochemical oxygen demand.
 (2) Based on 24-hr flow proportional composite.
 (3) Based on an ADWF of 4.2 mgd or approved increase of regulated flow. Mass limitations apply to direct discharge from the Filter Clearwell to the receiving water only.
 (4) Limitation at Filter Clearwell for tertiary treatment requirements.
 (5) Limitation at Discharge Point 001 for technology-based effluent limitations.

E. Interim Effluent Limitations

1. Methodology

a. Allowance for Compliance Schedules. Interim limitations are established when compliance with effluent limitations cannot be achieved by the existing discharge. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion as follows:

“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.” Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: ...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.”

b. Establishing Interim Limitations. The SIP, section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Water Board shall establish interim requirements and dates for their achievement in the NPDES permit. The interim limitations must be based on current treatment plant performance or existing permit limitations, whichever is more stringent. The State Water Board has held that the SIP may be used as guidance for non-CTR constituents. Therefore, the SIP requirement for interim effluent limitations has been applied to both CTR and non-CTR constituents in this Order.

c. Calculating Performance-Based Interim Limitations. Interim Limitations are applied as Daily Maxima.

i. Ten Or More Data Points. In developing the interim limitations, where there are ten data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row*). Therefore, the interim limitations are established as the mean plus 3.3 standard deviations of the available data.

There are some circumstances where this calculation will result in a performance-based value that is less than the final effluent limitation. (e.g. When the mean of the data multiplied by 3.3 standard deviations is less than the final effluent limitation.) In this case, the MEC should be used as the Interim Limitation

ii. Less Than Ten Data Points. When there are less than ten sampling data points available, the *Technical Support Document For Water Quality- Based Toxics Control* ((EPA/505/2-90-001), TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of ten data points is necessary to conduct a valid statistical analysis. The multipliers contained in table 5-2 of the tsd are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than ten sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed effluent concentration to obtain the daily maximum interim limitation (TSD, table 5-2).

2. Individual Interim Effluent Limitations

a. Aluminum. The SIP, section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Water Board shall establish interim requirements and dates for their achievement in the NPDES permit. The interim limitations must be based on current treatment plant

~~performance or existing permit limitations, whichever is more stringent. The State Water Board has held that the SIP may be used as guidance for non-CTR constituents. Therefore, the SIP requirement for interim effluent limitations has been applied to the non-CTR constituents, Aluminum, in this Order.~~

~~The interim limitation for aluminum in this Order is based on the current treatment plant performance. In developing the interim limitation, where there are ten sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row*). Therefore, the interim limitation for Aluminum is established as the mean plus 3.3 standard deviations of the available data.~~

~~When there are less than ten sampling data points available, the *Technical Support Document for Water Quality-Based Toxics Control* ((EPA/505/2-90-001), TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of ten data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than ten sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed effluent concentration to obtain the daily maximum interim limitation (TSD, Table 5-2).~~

- a. Aluminum.** The SIP method for calculating for interim effluent limitations has been applied to the non-CTR constituent, Aluminum, in this Order. The compliance schedule is allowed pursuant to the Basin Plan or, if effective prior to the date this order is issued, State Water Board Resolution No. 2008-0025. The SIP allows for compliance schedules within the permit for existing discharges where immediate compliance is infeasible. The Discharger submitted an Infeasibility Report for Aluminum adequately explaining that more time was necessary for compliance with the final effluent limitations. (See Section IV.C.3.e, above for discussion of the need and rationale for new final effluent limitations for aluminum.) Regional Water Board staff concur that additional time is necessary and there is a one (1) year compliance schedule in this Order. The SIP and Resolution No. 2008-0025 requires that numeric interim limitations must be established if a compliance schedule is granted. There are no existing limitations for aluminum at this Facility. Therefore, a performance-based limitation must be calculated. There were 28 data points, therefore, the performance-based limitation is calculated as the mean plus 3.3 standard deviations of the available data.

Table F-12 summarizes the calculations of the performance-based interim effluent limitation for aluminum:

Table F-11. Performance-Based Effluent Limitation Summary

Parameter	MEC	Mean	Std. Dev.	# of Samples	Performance-Based Limitation
Aluminum (ug/L)	310	67.4	65.6	28	284 or 310 (MEC)

The performance-based limitation (284 ug/L) is less than the final effluent limitation (301 ug/L). The interim aluminum limit is only in lieu of the final monthly average limit. Therefore, the MEC of 310 ug/L is established as the interim effluent limitation as a monthly average.

The Regional Water Board finds that the Discharger can undertake source control ,and treatment plant measures to maintain compliance with the interim limitations included in this Order. ~~Interim limitations are established when compliance with effluent limitations cannot be achieved by the existing discharge.~~ Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, ~~can~~ significantly have the potential to degrade water quality and adversely affect the beneficial uses of the receiving stream on a longterm basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the effluent limitation can be achieved.

~~Table F-12 summarizes the calculations of the interim effluent limitations for aluminum:~~

~~Table F-12. Interim Effluent Limitation Calculation Summary~~

Parameter	MEC	Mean	Std. Dev.	# of Samples	Interim Limitation
Aluminum (ug/L)	310	67.4	65.6	33	280

2.1. Electrical Conductivity (EC). The interim annual average EC effluent limitation of 690 umhos/cm is based on the current treatment plant performance. The discharge from the Facility is intermittent. Therefore, data averages may have limited applicability for establishing effluent limitations. The interim limitation has been set at 690 umhos/cm, which is the highest recorded EC concentration occurring in 111 days (3.65 months) of intermittent discharge between January through December 2007.

F. Land Discharge Specifications – Not Applicable

G. Reclamation Specifications

Treated wastewater discharged for reclamation is regulated under separate waste discharge requirements Order No. R5-2005-0040, or subsequent orders, and must meet the requirements of California Code of Regulations, Title 22.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

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

A. Surface Water

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

Numeric Basin Plan objectives for bacteria, dissolved oxygen, pH, temperature, and turbidity are applicable to this discharge and have been incorporated as Receiving Surface Water Limitations. Rationale for these numeric receiving surface water limitations are as follows:

- a. **Bacteria.** The Basin Plan includes a water quality objective that “[I]n water 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.” Numeric Receiving Water Limitations for bacteria are included in this Order and are based on the Basin Plan objective.

- b. **Biostimulatory Substances.** The Basin Plan includes a water quality objective that “[W]ater shall not contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.” Receiving Water Limitations for biostimulatory substances are included in this Order and are based on the Basin Plan objective.
- c. **Color.** The Basin Plan includes a water quality objective that “[W]ater shall be free of discoloration that causes nuisance or adversely affects beneficial uses.” Receiving Water Limitations for color are included in this Order and are based on the Basin Plan objective.
- d. **Chemical Constituents.** The Basin Plan includes a water quality objective that “[W]aters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.” Receiving Water Limitations for chemical constituents are included in this Order and are based on the Basin Plan objective.
- e. **Dissolved Oxygen.** Auburn Ravine Creek has been designated as having the beneficial use of cold freshwater aquatic habitat (COLD). For water bodies designated as having COLD as a beneficial use, the Basin Plan includes a water quality objective of maintaining a minimum of 7.0 mg/L of dissolved oxygen. Since the beneficial use of COLD does apply to Auburn Ravine Creek, a receiving water limitation of 7.0 mg/L for dissolved oxygen was included in this Order.

For surface water bodies outside of the Delta, the Basin Plan includes the water quality objective that “...the monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation.” This objective was included as a receiving water limitation in this Order.

- f. **Floating Material.** The Basin Plan includes a water quality objective that “[W]ater shall not contain floating material in amounts that cause nuisance or adversely affect beneficial uses.” Receiving Water Limitations for floating material are included in this Order and are based on the Basin Plan objective.
- g. **Oil and Grease.** The Basin Plan includes a water quality objective that “[W]aters shall not contain oils, greases, waxes, or other materials 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.” Receiving Water Limitations for oil and grease are included in this Order and are based on the Basin Plan objective.
- h. **pH.** The Basin Plan includes water quality objective that “[T]he 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". This Order includes receiving water limitations for both pH range and pH change.

The Basin Plan allows an appropriate averaging period for pH change in the receiving stream. Since there is no technical information available that indicates that aquatic organisms are adversely affected by shifts in pH within the 6.5 to 8.5 range, an averaging period is considered appropriate and a yearly averaging period for determining compliance with the 0.5 receiving water pH limitation is included in this Order.

- i. **Pesticides.** The Basin Plan includes a water quality objective for pesticides beginning on page III-6.00. Receiving Water Limitations for pesticides are included in this Order and are based on the Basin Plan objective.
- j. **Radioactivity.** The Basin Plan includes a water quality objective that *"[R]adionuclides shall not 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."* The Basin Plan states further that *"[A]t a minimum, waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations..."* Receiving Water Limitations for radioactivity are included in this Order and are based on the Basin Plan objective.
- k. **Sediment.** The Basin Plan includes a water quality objective that *"[T]he suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses"* Receiving Water Limitations for suspended sediments are included in this Order and are based on the Basin Plan objective.
- l. **Settleable Material.** The Basin Plan includes a water quality objective that *"[W]aters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses."* Receiving Water Limitations for settleable material are included in this Order and are based on the Basin Plan objective.
- m. **Suspended Material.** The Basin Plan includes a water quality objective that *"[W]aters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses."* Receiving Water Limitations for suspended material are included in this Order and are based on the Basin Plan objective.
- n. **Taste and Odors.** The Basin Plan includes a water quality objective that *"[W]ater 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.” Receiving Water Limitations for taste- or odor-producing substances are included in this Order and are based on the Basin Plan objective.

- o. **Temperature.** Auburn Ravine Creek has the beneficial uses of both COLD and WARM. The Basin Plan includes the objective that “[a]t no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature.” This Order contains site specific receiving water limitations for temperature. (See Receiving Water Limitations, Section V.A.15.)
- p. **Toxicity.** The Basin Plan includes a water quality objective that “[A]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” Receiving Water Limitations for toxicity are included in this Order and are based on the Basin Plan objective.
- q. **Turbidity.** ~~The Basin Plan includes a water quality objective that “[I]ncreases in turbidity attributable to controllable water quality factors shall not exceed the following limits:~~ This Order contains receiving water limitations based on the Basin Plan water quality objective for turbidity. The discharge shall not cause the following in Auburn Ravine Creek:
 - ~~Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU. The annual average turbidity to increase more than 1 Nephelometric Turbidity Units (NTUs) where natural annual average turbidity is between 0 and 5 NTUs;~~
 - Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
 - Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.
 - Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.”

~~A numeric Receiving Surface Water Limitation for turbidity is included in this Order and is based on the Basin Plan objective for turbidity.~~

B. Groundwater

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

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

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

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. The previous Order contained effluent limitations for BOD₅, TSS, total coliform organisms, ammonia, total residual chlorine, settleable solids, pH, turbidity, nitrates, and Oil & Grease. This Order contains the same effluent limitations for BOD₅, TSS, total coliform organisms, total residual chlorine, settleable solids, pH, and turbidity. The Reasonable Potential Analysis detected no potential for nitrates and for Oil & Grease to exceed water quality criteria and therefore, this Order contains no effluent limitations for nitrates or for Oil and Grease. Additional discussion of nitrates and Oil & Grease is included in the Section IV.D.3 regarding Anti-Backsliding. Monitoring, for BOD₅, TSS, total coliform organisms, ammonia, total residual chlorine, settleable solids, pH, and turbidity, has been included in this Order in accordance with the SIP.
2. The SIP states that if "...all reported detection limits of the pollutant in the effluent are greater than or equal to the C [water quality criterion or objective] value, the RWQCB [Regional Water Board] shall establish interim requirements...that require additional monitoring for the pollutant...." The previous Order contained effluent limitations for ammonia that required calculation with corresponding pH and hardness levels. New effluent limitations for ammonia in this Order are fixed year-round limitations based on reasonable worst-case conditions. Reasonable Potential for aluminum and copper to exceed water quality criteria was also found. Monitoring for aluminum and copper, has been included in this Order in accordance with the SIP.
3. Mercury and salinity are also present in the effluent. Due to the state of flux of the criteria for these constituents, this Order contains a mass-based effluent limitation

for mercury and a mass-based interim limitation for salinity, in the form of EC. This Order includes monitoring for mercury and EC.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Quarterly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity.** Quarterly chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

1. Surface Water

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

2. Groundwater – Not Applicable

E. Other Monitoring Requirements

1. Biosolids Monitoring

Biosolids monitoring is required to ensure compliance with the biosolids disposal requirements (Special Provisions VI.C.6.a.). Biosolids disposal requirements are imposed pursuant to 40 CFR Part 503 to protect public health and prevent groundwater degradation.

2. Water Supply Monitoring

Water supply monitoring is required to evaluate the source of constituents in the wastewater.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

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

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

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

B. Special Provisions

1. Reopener Provisions

- a. **Salinity Evaluation and Minimization Plan.** This Order requires that the Discharger to prepare and implement a salinity evaluation and minimization plan to address sources of salinity from the municipal wastewater treatment system. The plan shall be completed and submitted to the Regional Water Board within nine (9) months of the effective date of this Order for approval by the Executive Officer. Based on a review of the results of implementation of the salinity evaluation and minimization plan this Order may be reopened for addition and/or modification of effluent limitations and requirements for salinity.
- b. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a Toxicity Reduction Evaluation (TRE). This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.
- c. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper and aluminum. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.
- d. **Mercury:** If mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order shall be reopened and the interim mass effluent limitation modified (higher or lower) or an effluent concentration limitation imposed. If the 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.

2. Special Studies and Additional Monitoring Requirements

- a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at III-8.00.) Adequate WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan’s narrative toxicity objective. Attachment E of this Order requires Quarterly chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, this provision requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity is demonstrated

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

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

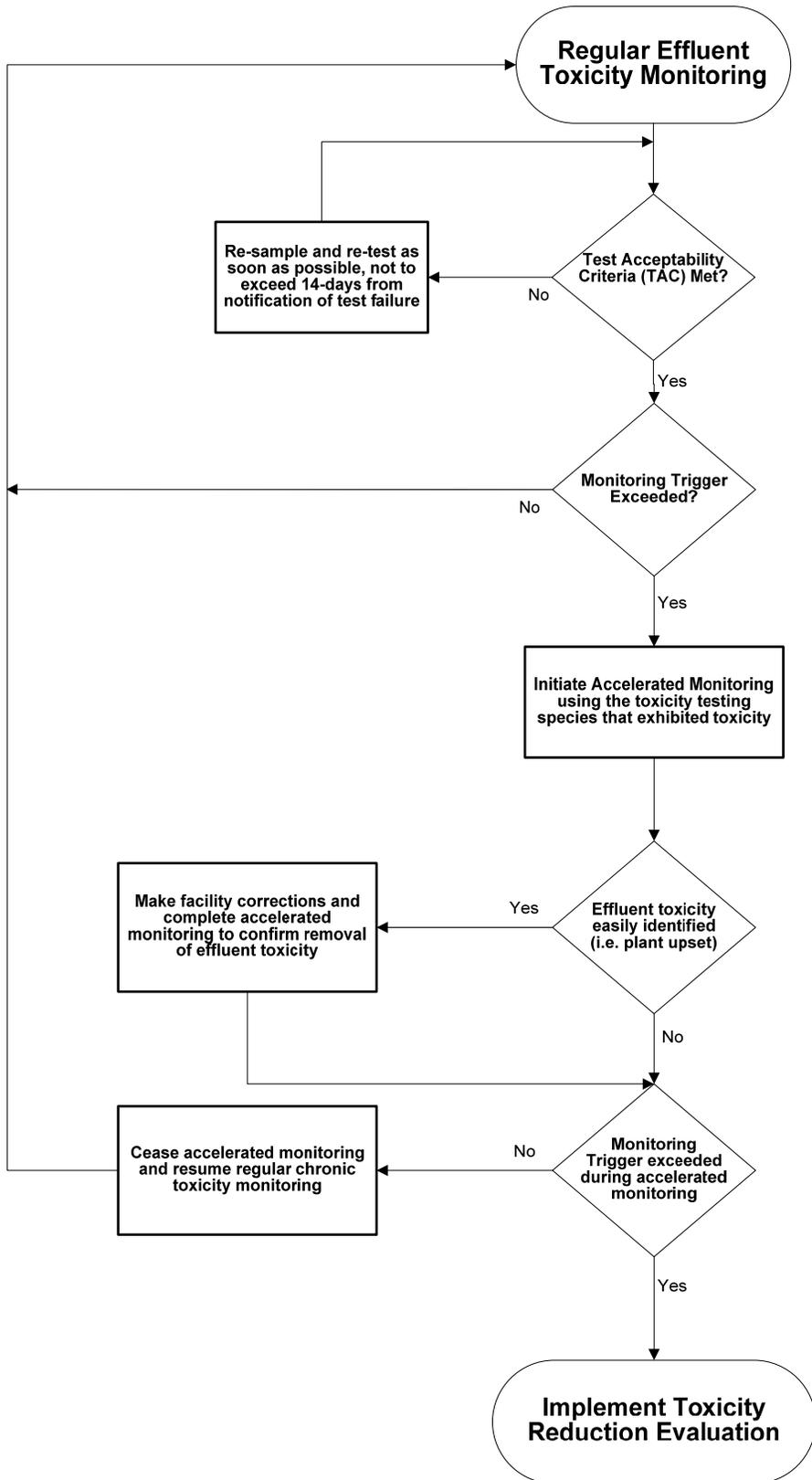
The provision requires accelerated monitoring consisting of four chronic toxicity tests every two weeks using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001,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

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

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

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

**Figure F-3
 WET Accelerated Monitoring Flow Chart**



3. Best Management Practices and Pollution Prevention

- a. **Salinity Evaluation and Minimization Plan.** The Discharger shall prepare and implement a salinity evaluation and minimization plan to address sources of salinity from the municipal wastewater treatment system. The plan shall be completed and submitted to the Regional Water Board **within 9 months of the effective date of this Order** for approval by the Executive Officer
- b. **Salinity Reduction Goal.** In an effort to monitor progress in reducing salinity discharges to Auburn Ravine Creek, the Discharger shall provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to Auburn Ravine Creek. Based on effluent data for this Facility, the Regional Water Board finds that with an average salinity of 688 umhos/cm as electrical conductivity (EC), that 690 umhos as a monthly average is a reasonable interim performance-based limitation that can be immediately achieved upon the effective date of this Order. The annual reports shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.).

4. **Construction, Operation, and Maintenance Specifications.** During construction, the Discharger shall provide monthly updates, including but not limited to; milestones achieved, construction completed, construction started, interrupted treatment processes, and processes put on-line or taken off-line. The monthly updates shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.B).

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Pretreatment Requirements

- i. The Federal Clean Water Act, Section 307(b), and Federal Regulations, 40 CFR Part 403, require publicly owned treatment works to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants, which will interfere with treatment plant operations or sludge disposal, and prevent pass through of pollutants that exceed water quality objectives, standards or permit limitations. Pretreatment requirements are imposed pursuant to 40 CFR Part 403.
- ii. Upon a regulated flow of 5 mgd or greater, the Discharger shall implement and enforce its approved pretreatment program and is an enforceable condition of this Order. If the Discharger fails to perform the pretreatment functions, the Regional Water Board, the State Water Board or the USEPA may take enforcement actions against the Discharger as authorized by the CWA.
- iii. Pretreatment Requirements and Pretreatment Program Development Requirements are discussed in more detail in Special Provisions Section

VI.C.5.b and VI.C.5.c and in Attachment E Reporting Requirements Section X.D.1 and Section X.D.5.

b. 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 (i.e., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a regional water quality control board will satisfy these specifications.
- ii. Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance.
- iii. The treatment of sludge generated at the Facility shall be confined to the Facility property and conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate Groundwater Limitations V.B. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate Groundwater Limitations V.B.
- iv. The use and disposal of biosolids shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503. If the State Water Board and the Regional Water Board are given the authority to implement regulations contained in 40 CFR 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 CFR 503 whether or not they have been incorporated into this Order.

c. 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.

d. **Biosolids Storage Requirements**

- i. Facilities for the storage of Class B biosolids shall be located, designed and maintained to restrict public access to biosolids.
 - ii. Biosolids storage facilities shall be designed and maintained to prevent washout or inundation from a storm or flood with a return frequency of 100 years.
 - iii. Biosolids storage facilities, which contain biosolids, shall be designed and maintained to contain all storm water falling on the biosolids storage area during a rainfall year with a return frequency of 100 years.
 - iv. Biosolids storage facilities shall be designed, maintained and operated to minimize the generation of leachate.
- e. **Collection System Requirements:** On 2 May 2006, the State Water Board adopted State Water Board Order 2006-0003, a Statewide General WDR for Sanitary Sewer Systems. The Discharger is subject to the requirements of Order 2006-0003 and any future revisions thereto. Order 2006-0003 requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDR. By 2 November 2006, the Discharger was required by that Order, not incorporated by reference herein, to apply for coverage under State Water Board Order 2006-0003 for operation of its wastewater collection system.

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

6. **Other Special Provisions**

- a. Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the DPH reclamation criteria, California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22), or equivalent.
- b. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Regional Water Board.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of

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

7. Compliance Schedules

a. Compliance Schedules for Final Effluent Limitations for Aluminum.

- i. **By 53 years from the adoption date of this Order**, the Discharger shall comply with the final monthly average effluent limitations for aluminum. In an Infeasibility Report dated 22 July 2008, the Discharger submitted a compliance schedule justification for aluminum. The compliance schedule justification included all items specified in Paragraph 3, items (a) through (d), of section 2.1 of the SIP. The Infeasibility Study requested a 5 year compliance schedule, however, Regional Water Board staff considers 5 years to be more than necessary and has established a 3 year compliance schedule. As this compliance schedule is greater than one year, the Discharger shall submit semi-annual progress reports in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1).
- ii. **Corrective Action Plan/Implementation Schedule.** The Discharger shall submit to the Regional Water Board a corrective action plan and implementation schedule to assure compliance with the final effluent limitations for aluminum **within 6 months of the adoption date of this Order.**

VIII. PUBLIC PARTICIPATION

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

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through publishing the Notice of Public Hearing in the Sacramento Bee or Lincoln News Messenger and by posting in public

areas (the nearest courthouse or city hall, the post office nearest the Facility, and near the entrance of the Facility by ~~22~~ August 2008.

B. Written Comments

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

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on ~~22~~ **September 2008**.

C. Public Hearing

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

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

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

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

D. Waste Discharge Requirements Petitions

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

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

E. Information and Copying

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

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Elizabeth Thayer at (916) 464-4671 or ethayer@waterboards.ca.gov.

ATTACHMENT G
TABLE G-1
REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS
(based on last 3 years of data, all units are ug/L unless otherwise specified)

Constituent CTR #	Sb #1	As #2	Be #3	Cd #4	Cr(III) #5a	Cr(VI) #5b	Cu #6	Pb #7	Hg #8	Ni #9	Se #10	Silver #11	Thallium #12	Zinc #13	Cyanide #14	Asb(MFL) #15
LEC	ND	ND	ND	ND	ND	ND	0.85 (t)	0.02 J (t)	0.0005	1.8 (t)	ND	ND	ND	6.0	ND	ND
MEC	0.4	2.3	ND	0.04 J (t)	0.7 (t)	0.2 J	6.2 (t)	0.22 (t)	0.021	3.9 (t)	2	0.04 J (t)	0.04 J	60	1.6 2.8 J	ND
Max Bckgrnd	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Numeric BPO (Site Specific, MCL)	MCL 6	MCL 10 BPO 10 (d)	MCL 4	MCL 5	MCL 50	MCL 50	MCL 1000 (t) BPO 8.60 (d)	MCL 15 (t)	MCL 2	MCL 100	MCL 50	MCL 100 BPO 10 (d)	MCL 2	MCL 5000 BPO 23.64 (d)	MCL 150 BPO 10 (d)	MCL 7 MFL
Narrative BP Objective	Chem. Const. and Toxicity	Toxicity BPO, MCL Action Level 15 (t)	Chem. Const. and Toxicity	Chem. Const. and Toxicity	Chem. Const. and Toxicity	Chem. Const. and Toxicity	Chem. Const. and Toxicity	Chem. Const. and Toxicity	Chem. Const. and Toxicity	Chem. Const. and Toxicity						
CMC @ H=48 mg/L	None Est.	340 i,m,w	None Est.	1.9 (d) 2.0 (t)	300 (d) 950 (t)	16 i,m,w	6.7 (d) 7.0 (t)	29 (d) 32 (t)	None Est.	250 (d) 250 (t)	20 q	Inst Max 0.98 (d) 1.15 (t)	None Est.	63 (d) 64 (t)	22 o	None Est.
CCC, @ H=48 mg/L	None Est.	150 i,m,w	None Est.	1.2 (d) 1.4 (t)	98 (d) 110 (t)	11 i,m,w	4.8 (d) 5.0 (t)	1.1 (d) 1.2 (t)	None Est.	28 (d) 28 (t)	5 q	None Est.	None Est.	63 (d) 64 (t)	5.2 o	None Est.
Human Health Water+Orgs	14 (t) a,s	None Est.	n	n	n	n	1300	n	0.050 a	610 a	NAWQC 170 n	None Est.	1.7 a,s	None Est.	700 a	7 MFL k,s
Human Health Orgs Only	4300 (t) a,t	None Est.	n	n	n	n	None Est.	n	0.051 a	4600 a	NAWQC 4200 n	None Est.	6.3 a,t	None Est.	220,000 a,j	None Est.
Other factors (303d list, bioaccum)	none	none	303d List Bioaccum	none	none	none	none	none	none	none						
Reasonable Potential	N	N	N	N	N	N	Y	N	Y Mass lim based on Delta TMDL	N	N	N	N	N	N	N

Notes for Table G-1: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, 18 May 2000/Rules and Regulations. **E-11** = exponent of 10⁻¹¹, **estimate** = concentration estimated by laboratory, **J** = Detected but Not Quantified or DNQ (estimated by Lab), **Inst Max** = Instantaneous Maximum, **J*** = only one DNQ and no other detections, **NAWQC** = National Ambient Water Quality Criteria, **ND @ 0.002** = Not Detected at a laboratory method detection limit of 0.002 ug/L, **NS** = Not Sampled, **MFL**= Million fibers per Liter, **LEC**= Lowest Effluent concentration, **MEC**= Maximum effluent concentration, **CMC** = Criterion Maximum Concentration, **CCC** = Criterion Continuous Concentration, **MCL** = Maximum Contaminant Limit, **BP** = Basin Plan, **BPO** = Basin Plan Objective, **(d)** = dissolved concentration, **(t)** = total recoverable concentration, **None Est.** = None established, **303d** = impaired waterbody.
Reasonable Potential: (Y) when MEC>most stringent criterion or Max Background concentration >most stringent criterion (and the pollutant is detected in the effluent).
Reasonable Potential: (I) when there is no available/adequate effluent and background data.
Reasonable Potential: (N) when both MEC and Max Background concentration are < most stringent criterion.

TABLE G-1 (CONTINUED)
REASONABLE POTENTIAL ANALYSIS - FOR PRIORITY POLLUTANTS
(based on last 3 years of data, all units are ug/L unless otherwise specified)

Constituent CTR #	2,3,7,8-TCDD (Dioxin) # 16	Acrolein # 17	Acrylonitrile # 18	Benzene # 19	Bromoform # 20	Carbon Tetrachloride # 21	Chlorobenzene # 22	Chlorodibromomethane # 23	Chloroethane # 24	2-Chloroethylvinyl ether # 25
LEC	--	ND	ND	ND						
MEC	ND	ND	0.4 J *	0.06 J *	ND	ND	ND	ND	ND	ND
Max Bckgrnd	--	--	--	--	--	--	--	--	--	--
Numeric BPO (Site Spec, MCL)	MCL 3.0E-08	No MCL	No MCL	MCL 1	MCL THMs 80	MCL 0.5	MCL 70	MCL THMs 80	No MCL	No MCL
Narrative BPO	Chemical Const. and Toxicity	none	none							
CMC Freshwater	None Est.	None Est.	None Est.							
CCC Freshwater	None Est.	None Est.	None Est.							
Human Health Water +Org.	1.3E-08 c	320 s	0.059 a,c,s	1.2 a,c	4.3 a,c	0.25 a,c,s	680 a,s	0.41 a,c	None Est.	None Est.
Human Health Organisms Only	1.4E-08 c	780 t	0.66 a,c,t	71 a,c	360 a,c	4.4 a,c,t	21,000 a,j,t	34 a,c	None Est.	None Est.
Other factors	Dioxins and Furans Bioaccum	none	none	none						
Reason. Potent.	N	N	I	N	N	N	N	N	N	N

Constituent CTR #	Chloroform # 26	Dichlorobromomethane # 27	1,1-Dichloroethane # 28	1,2-Dichloroethane # 29	1,1-Dichloroethylene # 30	1,2-Dichloropropane # 31	1,3-Dichloropropylene # 32	Ethylbenzene # 33	Methyl Bromide # 34	Methyl Chloride # 35
LEC	ND	ND								
MEC	0.6	ND	ND	ND	ND	ND	ND	0.1 J	0.1 J	0.08 J *
Max Bckgrnd	--	--	--	--	--	--	--	--	--	--
Numeric BPO (Site Spec, MCL)	MCL THMs 80 MCL Goal 70	MCL THMs 80	MCL 5	MCL 0.5	MCL 6	MCL 5	MCL 0.5	MCL 700	No MCL	No MCL
Narrative BPO	Chemical Const. and Toxicity	none								
CMC Freshwater	None Est.	None Est.								
CCC Freshwater	None Est.	None Est.								
Human Health Water +Org.	CTR reserved USEPA 5.7	0.56 a,c	None Est.	0.38 a,c,s	0.057 a,c,s	0.52 a	10 a,s	3,100 a,s	48 a	n
Human Health Organisms Only	CTR reserved USEPA 470	46 a,c	None Est.	99 a,c,t	3.2 a,c,t	39 a	1,700 a,t	29,000 a,t	4,000 a	n
Other factors	none	none								
Reason Potent.	N	N	N	N	N	N	N	N	N	N

NOTES FOR TABLE G-1: SEE PAGE G-1 OR G-7

TABLE G-1 (CONTINUED)
REASONABLE POTENTIAL ANALYSIS - FOR PRIORITY POLLUTANTS
(based on last 3 years of data, all units are ug/L unless otherwise specified)

Constituent CTR #	Methylene Chloride # 36	1,1,2,2-Tetrachloroethane # 37	Tetrachloro ethylene # 38	Toluene # 39	1,2-trans-Dichloroethylene # 40	1,1,1-Trichloroethane # 41	1,1,2-Trichloroethane # 42	Trichloro ethylene # 43	Vinyl Chloride # 44	2-Chloro phenol # 45
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	0.2	ND	ND	0.1 0.8 J	ND	ND	ND	ND	ND	ND
Maximum Background	--	--	--	--	--	--	--	--	--	--
Numeric BPO (Site Spec, MCL)	MCL, 5	MCL, 1	MCL, 5	MCL, 150	MCL, 10	MCL, 200	MCL, 5	MCL, 5	MCL, 0.5	No MCL
Narrative BPO	Chem. Const. and Tox.	Chem. Const. and Tox	Chem. Const. and Tox	Chem. Const. and Tox	Chem. Const. and Tox	Chem. Const. and Tox	Chem. Const. and Tox	Chem. Const. and Tox	Chem. Const. and Tox	Chem. Const. and Tox
CMC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health Water + Org.	4.7 a,c	0.17 a,c,s	0.8 c,s	6,800 a	700 a	n	0.60 a,c,s	2.7 c,s	2 c,s	120 a
Human Health Organisms Only	1,600 a,c	11 a,c,t	8.85 c,t	200,000 a	140,000 a	n	42 a,c,t	81 c,t	525 c,t	400 a
Other factors	none	none	none	none	none	none	none	none	none	none
Reason. Potent.	N	N	N	N	N	N	N	N	N	N

Constituent CTR #	2,4-Dichlorophenol # 46	2,4-Dimethy phenol # 47	2-Methyl-4,6-Dinitrophenol # 48	2,4-Dinitrophenol # 49	2-Nitrophenol # 50	4-Nitrophenol # 51	4-chloro-3-methylphenol # 52	Pentachloro phenol # 53	Phenol # 54
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	1.9	ND
Max Bckgrnd	--	--	--	--	--	--	--	--	--
Numeric BPO (Site Specific, MCL)	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL	MCL, 1	No MCL
Narrative BPO	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	none	none	none	Chemical Const. and Toxicity	Chemical Const. and Toxicity
CMC Freshwater At pH=6.5	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	5.3 f,w	None Est.
CCC Freshwater At pH=6.5	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	4.0 f,w	None Est.
Human Health Water +Organisms	93 a,s	540 a	13.4 s	70 a,s	None Est.	None Est.	None Est.	0.28 a,c	21,000 a
Human Health Organisms Only	790 a,t	2,300 a	765 t	14,000 a,t	None Est.	None Est.	None Est.	8.2 a,c,j	4,600,000 a,j,t
Other factors	none	none	none	none	none	none	none	none	none
Reasonable Potential	N	N	N	N	N	N	N	N	N

Notes for Table G-1: See Page G-1 or G-7

TABLE G-1 (CONTINUED)
REASONABLE POTENTIAL ANALYSIS - FOR PRIORITY POLLUTANTS
(based on last 3 years of data, all units are ug/L unless otherwise specified)

Constituent CTR #	2,4,6-Trichlorophenol # 55	Acenaphthene # 56	Acenaphthylene # 57	Anthracene # 58	Benzdine # 59	Benzo(a)anthracene # 60	Benzo(a)pyrene # 61	Benzo(b)fluoranthene # 62	Benzo(g,h,i)perylene # 63
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	0.03 J *	0.03 J *	ND	ND	0.02 J *	0.02 J *	0.02 J *
Max Background	--	--	--	--	--	--	--	--	--
Numeric BPOjective (Site Specific, MCL)	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL	MCL, 0.2	No MCL	No MCL
Narrative Basin Plan Objective	Chemical Const. and Toxicity	Chemical Const. and Toxicity	none	Chemical Const. and Toxicity	none				
CMC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health Water +Organisms	2.1 a,c	1,200 a	None established	9,600 a	0.00012 a,c,s	0.0044 a,c	0.0044 a,c	0.0044 a,c	None established
Human Health Organisms Only	6.5 a,c	2,700 a	None established	110,000 a	0.00054 a,c,t	0.049 a,c	0.049 a,c	0.049 a,c	None established
Other factors	none	none	none	none	none	none	none	none	none
Reasonable Potential	N	N	N	N	N	N	I	I	N

Constituent CTR #	Benzo(k)fluoranthene # 64	Bis (2-chloro ethoxy) Methane # 65	Bis (2-chloro ethyl) Ether # 66	Bis (2-chloroiso propyl) Ether # 67	Bis (2-ethylhexyl) Phthalate # 68	4-Bromophenyl Phenyl Ether # 69	Butylbenzyl Phthalate # 70	2-Chloro-naphthalene # 71	4-Chlorophenyl Phenyl Ether # 72
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	0.66 J *	ND	1.7 J *	ND	ND
Max Background	--	--	--	--	--	--	--	--	--
Numeric BPOjective (Site Specific, MCL)	No MCL	No MCL	No MCL	No MCL	MCL, 4	No MCL	No MCL	No MCL	No MCL
Narrative Basin Plan Objective	Chemical Const. and Toxicity	none	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	none	Chemical Const. and Toxicity	Chemical Const. and Toxicity	none
CMC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health Water +Organisms	0.0044 a,c	None est	0.031 a,c,s	1,400 a	1.8 a,c,s	None est	3,000 a	1,700 a	None Est.
Human Health Organisms Only	0.049 a,c	None est	1.4 a,c,t	170,000 a,t	5.9 a,c,t	None est	5,200 a	4,300 a	None Est.
Other factors	none	none	none	none	none	none	none	none	none
Reasonable Potential	I	N	N	N	N	N	N	N	N

Notes for Table G-1: See Page G-1 or G-7

TABLE G-1 (continued)
REASONABLE POTENTIAL ANALYSIS - FOR PRIORITY POLLUTANTS
(based on last 3 years of data, all units are ug/L unless otherwise specified)

Constituent CTR #	Chrysene # 73	Dibenzo(a,h) anthracene # 74	1,2-Dichloro benzene # 75	1,3-Dichloro benzene # 76	1,4-Dichloro benzene # 77	3,3-Dichloro benzidine # 78	Diethyl Phthalate # 79	Dimethyl Phthalate # 80	Di-n-Butyl Phthalate # 81
LEC	ND								
MEC	ND	0.02 J *	ND						
Maximum Background	--	--	--	--	--	--	--	--	--
Numeric BP Objective (Site Specific, MCL)	No MCL	No MCL	MCL, 600	No MCL	MCL, 5	No MCL	No MCL	No MCL	No MCL
Narrative Basin Plan Objective	Chemical Const. and Toxicity								
CMC Freshwater	None Est.								
CCC Freshwater	None Est.								
Human Health Water +Organisms	0.0044 a,c	0.0044 a,c	2,700 a	400	400	0.04 a,c,s	23,000 a,s	313,000 s	2,700 a,s
Human Health Organisms Only	0.049 a,c	0.049 a,c	17,000 a	2,600	2,600	0.077 a,c,t	120,000 a,t	2,900,000 t	12,000 a,t
Other factors	none								
Reasonable Potential	N	I	N	N	N	N	N	N	N

Constituent CTR #	2,4-Dinitro toluene # 82	2,6-Dinitro toluene # 83	Di-n-Octyl Phthalate # 84	1,2-Diphenyl hydrazine # 85	Fluoranthene # 86	Fluorene # 87	Hexachloro benzene # 88	Hexachloro butadiene # 89	Hexachloro cyclopentadiene # 90
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	0.03 J *	0.04 J *	ND	ND	ND
Maximum Background	--	--	--	--	--	--	--	--	--
Numeric BP Objective (Site Specific, MCL)	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL	MCL, 1	No MCL	MCL, 50
Narrative Basin Plan Objective	Chemical Const. and Toxicity	none	none	Chemical Const. and Toxicity					
CMC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health Water +Organisms	0.11 c,s	None Est.	None Est.	0.040 a,c,s	300 a	1,300 a	0.00075 a,c	0.44 a,c,s	240 a,s
Human Health Organisms Only	9.1 c,t	None Est.	None Est.	0.54 a,c,t	370 a	14,000 a	0.00077 a,c	50 a,c,t	17,000 a,j,t
Other factors	none	none	none	none	none	none	none	none	none
Reasonable Potential	N	N	N	N	N	N	N	N	N

Notes for Table G-1: See Page G-1 or G-7

TABLE G-1 (continued)
REASONABLE POTENTIAL ANALYSIS - FOR PRIORITY POLLUTANTS
(based on last 3 years of data, all units are ug/L unless otherwise specified)

Constituent CTR #	Hexachloroethane # 91	Indeno (1,2,3-c,d) Pyrene # 92	Isophorone # 93	Naphthalene # 94	Nitrobenzene # 95	N-Nitroso dimethylamine # 96	N-Nitrosodi-n-Propylamine # 97	N-Nitroso diphenylamine # 98
LEC	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	0.03 J *	ND	ND	ND	ND	ND	ND
Maximum Background	--	--	--	--	--	--	--	--
Numeric BP Objective (Site Specific, MCL)	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL	No MCL
Narrative Basin Plan Objective	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	none	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity
CMC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
CCC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.
Human Health Water +Organisms	1.9 a,c,s	0.0044 a,c	8.4 c,s	None Est.	17 a,s	0.00069 a,c,s	0.005 a	5.0 a,c,s
Human Health Organisms Only	8.9 a,c,t	0.049 a,c	600 c,t	None Est.	1,900 a,j,t	8.1 a,c,t	1.4 a	16 a,c,t
Other factors	none	none	none	none	none	none	none	none
Reasonable Potential	N	I	N	N	N	N	N	N

Constituent CTR #	Phenanthrene # 99	Pyrene # 100	1,2,4-Trichloro benzene # 101	Aldrin # 102	α-BHC # 103	β-BHC # 104	γ-BHC (Lindane) # 105	δ-BHC # 106	Chlordane # 107	4,4' DDT # 108
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	0.04 J *	0.02 J *	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	--	--	--	--	--	--	--	--	--	--
Numeric BP Objective (Site Specific, MCL)	No MCL	No MCL	MCL 5	No MCL	No MCL	No MCL	MCL 0.2	No MCL	MCL 0.1	No MCL
Narrative Basin Plan Objective	none	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Pesticide BPO ND, <0.005	Pesticide BPO ND, <0.01	Pesticide BPO ND, <0.014	Pesticide BPO ND, <0.019	Pesticide BPO ND, <0.005	Pesticide BPO ND, <0.1	Pesticide BPO ND, <0.01
CMC Freshwater	None Est.	None Est.	None Est.	3 g	None Est.	None Est.	0.95 w	None Est.	2.4 g	1.1 g
CCC Freshwater	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	None Est.	0.0043 g	0.001 g
Human Health Water +Organisms	None established	960 a	None established	0.00013 a,c	0.0039 a,c	0.014 a,c	0.019 c	None established	0.00057 a,c	0.00059 a,c
Human Health Organisms Only	None established	11,000 a	None established	0.00014 a,c	0.013 a,c	0.046 a,c	0.063 c	None established	0.00059 a,c	0.00059 a,c
Other factors	none	none	none	303d/OCPEst Bioaccum.	303d/OCPEst Bioaccum	303d/OCPEst Bioaccum	303d/OCPEst Bioaccum	303d/OCPEst Bioaccum	303d/OCPEst Bioaccum	303d/OCPEst Bioaccum.
Reasonable Potential	N	N	N	N	N	N	N	N	N	N

Notes for Table G-1: See Page G-1 or G-7

TABLE G-1 (continued)
REASONABLE POTENTIAL ANALYSIS - FOR PRIORITY POLLUTANTS
(based on last 3 years of data, all units are ug/L unless otherwise specified)

Constituent CTR #	4, 4'-DDE # 109	4,4'-DDD # 110	Dieldrin # 111	alpha-Endosulfan # 112	beta-Endosulfan # 113	Endosulfan Sulfate # 114	Endrin # 115	Endrin Aldehyde # 116	Heptachlor # 117	Heptachlor Epoxide # 118	PCBs (Aroclors) # 119-125	Toxaphene # 126
LEC	ND	ND	ND	--	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Background	--	--	--	--	--	--	--	--	--	--	--	--
Numeric BP Objective (Site Specific, MCL)	No MCL	MCL 2	No MCL	MCL 0.01	MCL 0.01	MCL 0.5	MCL 3					
Narrative Basin Plan Objective	Pesticide BPO ND, <0.05	Pesticide BPO ND, <0.05	Pesticide BPO ND, <0.01	Pesticide BPO ND, <0.02	Pesticide BPO ND, <0.01	Pesticide BPO ND, <0.05	Pesticide BPO ND, <0.01	Chem. Const. and Toxicity	Pesticide BPO ND, <0.01			
CMC Freshwater	None Est.	None Est.	0.24 w	0.22 g	0.22 g	None Est.	0.086 w	None Est.	0.52 g	0.52 g	None Est.	0.73
CCC Freshwater	None Est.	None Est.	0.056 w	0.056 g	0.056 g	None Est.	0.036 w	None Est.	0.0038 g	0.0038 g	0.014u	0.0002
Human Health Water +Organisms	0.00059 a,c	0.00083 a,c	0.00014 a,c	110 a	110 a	110 a	0.76 a	0.76 a	0.00021 a,c	0.00010 a,c	0.00017c,v	0.00073a,c
Human Health Organisms Only	0.00059 a,c	0.00084 a,c	0.00014 a,c	240 a	240 a	240 a	0.81 a,j	0.81 a,j	0.00021 a,c	0.00011 a,c	0.00017c,v	0.00075a,c
Other factors	303d/OCPEst Bioaccum.	OCPEst Bioaccum.	303d/OCPEst Bioaccum	303d/OCPEst Bioaccum	303d/OCPEst Bioaccum	OCPEst Bioaccum.	303d/OCPEst Bioaccum	OCPEst Bioaccum.	303d/OCPEst Bioaccum	OCPEst Bioaccum.	Bioaccum.	303d/OCPEst Bioaccum
Reasonable Potential	N	N	N	N	N	N	N	N	N	N	N	N

Notes for Table G-1: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, 18 May 2000/Rules and Regulations. **E-11** = exponent of 10⁻¹¹, **estimate** = concentration estimated by laboratory, **J** = Detected but Not Quantified or DNQ (estimated by Lab), **Inst Max** = Instantaneous Maximum, **J *** = only one DNQ and no other detections, **NAWQC** = National Ambient Water Quality Criteria, **ND @ 0.002** = Not Detected at a laboratory method detection limit of 0.002 ug/L, **NS** = Not Sampled, **MFL**= Million fibers per Liter, **LEC**= Lowest Effluent concentration, **MEC**= Maximum effluent concentration, **CMC** = Criterion Maximum Concentration, **CCC** = Criterion Continuous Concentration, **MCL** = Maximum Contaminant Limit, **BP** = Basin Plan, **BPO** = Basin Plan Objective, **(d)** = dissolved concentration, **(t)** = total recoverable concentration, **None Est.** = None established, **303d** = impaired waterbody.

Reasonable Potential: (Y) when MEC>most stringent criterion or Max Background concentration >most stringent criterion (and the pollutant is detected in the effluent).

Reasonable Potential: (I) when there is no available/adequate effluent and background data.

Reasonable Potential: (N) when both MEC and Max Background concentration are < most stringent criterion.

**TABLE G-2
REASONABLE POTENTIAL ANALYSIS - FOR DIOXINS AND FURANS**

(based on last 3 years of data, all units are ug/L unless otherwise specified)

Constituent CTR #	2,3,7,8 TetraCDD (Dioxin) # 16	1,2,3,7,8 Penta CDD	1,2,3,4,7,8 Hexa CDD	1,2,3,6,7,8 Hexa CDD	1,2,3,7,8,9 Hexa CDD	1,2,3,4,6,7,8 Hepta CDD	Octa CDD	2,3,7,8 TetraCDF	1,2,3,7,8 PentaCDF	2,3,4,7,8 Penta CDF	1,2,3,4,7,8 Hexa CDF	1,2,3,6,7,8 Hexa CDF	1,2,3,7,8,9 Hexa CDF	2,3,4,6,7,8 Hexa CDF	1,2,3,4,6,7,8 Hepta CDF	1,2,3,4,7,8,9 Hepta CDF	Octa CDF
LEC	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Max Backg.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Numeric BP Obj, MCL	MCL 3.0E-08	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin
Narrative BP Obj	Chem. Const. and Toxicity	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin
CMC and CCC	None Est.	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin
Human Health Water+ Org	1.3E-08 c	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin
Human Health Org Only	1.4E-08 c	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin	See Dioxin
Toxic Equiv. Factors (TEF)	TEF = 1	TEF = 1.0	TEF = 0.1	TEF = 0.1	TEF = 0.1	TEF = 0.001	TEF = 0.0001	TEF = 0.1	TEF = 0.05	TEF = 0.5	TEF = 0.1	TEF = 0.1	TEF = 0.1	TEF = 0.1	TEF = 0.01	TEF = 0.01	TEF = 0.0001
Reas. Potent.	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Notes for Table G-2: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, 18 May 2000/Rules and Regulations. **E-11** = exponent of 10⁻¹¹, **estimate** = concentration estimated by laboratory, **ND @ 0.002** = Not Detected at a laboratory method detection limit of 0.002 ug/L, **NS** = Not Sampled, **MFL**= Million fibers per Liter, **LEC**= Lowest Effluent concentration, **MEC**= Maximum effluent concentration, **CMC** = Criterion Maximum Concentration, **CCC** = Criterion Continuous Concentration, **MCL** = Maximum Contaminant Limit, **BP** = Basin Plan, **BPO** = Basin Plan Objective, **(d)** = dissolved concentration, **(t)** = total recoverable concentration, **None Est.** = None established, **U** = Also detected in laboratory method blank.

Reasonable Potential: (Y) when MEC>most stringent criterion or Max Background concentration >most stringent criterion (and the pollutant is detected in the effluent).

Reasonable Potential: (I) when there is no available/adequate effluent and background data.

Reasonable Potential: (N) when both MEC and Max Background concentration are < most stringent criterion.

TABLE G-3
REASONABLE POTENTIAL ANALYSIS - FOR OTHER POLLUTANTS OF CONCERN

(based on last 3 years of data, all units are ug/L unless otherwise specified)

Constituent	Aluminum	Ammonia as N (mg/L)	Barium	Boron	Chloride (mg/L)	Chlorine (mg/L)	Fluoride (mg/L)	Iron	Mn	Nitrate as N (mg/L)	Nitrite as N (mg/L)	Phosphorus (mg/L)	Sodium (mg/L)	Sulfate (as SO ₄) (mg/L)	Sulfide	Sulfite
LEC	5 (t)	0.004	8.7		36	ND	ND	ND	1.3	1.6	ND	0.22		25	ND	ND
MEC	310 (t)	0.36	24	NR	93	ND	1.0 J	0.030 J	25	4.9	0.083	1.4	NR	45	0.033 J	2.6
Max Back	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Num. BPO (site spec, MCL)	MCL 200	No MCL	MCL 1000 BPO 100	No MCL	MCL 250	MCL 4	MCL 2000	MCL 300 BPO 300	MCL 50 BPO 50	MCL 10	MCL 1	No MCL	No MCL	MCL 250	No MCL	No MCL
Narr. BPO	USEPA CCC 87 (t) CMC 750 (t)	USEPA CCC 0.339 CMC 1.04	Chem. Const. and Tox.	Ag WQ goal 700	Chem. Const. and Tox.	USEPA 4-D Av 0.01 1-H Av 0.02	Ag WQ Rome Paper 1000	Chem. Const. and Tox.	none	none	none	none	none			
Other factor (303d list, bioacc)	none	Worst case T = 27.2 C pH = 8.5	none	Salinity	Salinity	T & O 0.002	none	none	none	none	none	none	Salinity	Salinity	none	none
Reason. Potent.	Y	Y	N	I	N	Y	N	N	N	N	N	N	N	N	N	N

Constituent	Methyl mercury	Tbt	Persistent Chlorinated HC Pesticides	Phthalate Acid Esters (PAEs)	Total Trihalo Methanes (THMs)	Oil and Grease	Foaming Agents (MBAS) (mg/L)	Electrical Conductivity (EC) (umhos/cm)	Total Dissolved Solids (TDS) (mg/L)	Salinity	Hardness (as CaCO ₃) (mg/L)	pH	Temp (°F)
LEC	ND	ND					ND	306	186	See EC	48	6.6	41.0
MEC	0.068	ND	NR	NR	NR	NR	0.049 J	688	363	See EC	330	8.4	81.0
Min Back	--	--					--	--	--	--	--	--	--
Max Back	--	--					--	--	--	--	--	--	--
Num BPO (site spec, MCL)	No MCL	No MCL	No MCL	No MCL	MCL 80	No MCL	MCL 0.500	MCL 900	MCL, 500	--	No MCL	MCL 6.5 ≤ pH ≤ 8.5	No MCL
Narr BPO	Chemical Const. and Toxicity	USEPA 0.072 CCC 0.46 CMC	Basin Plan Objective - None Detected	Chemical Const. and Toxicity	Chemical Const. and Toxicity	BP Objective	Chemical Const. and Toxicity	Ag WQ goal 700	Ag WQ goal 450	--	None	BP Objective 6.5 ≤ pH ≤ 8.5 Δ pH ≤ 0.5	BPO Δ Temp ≤ 5°F
Other factors (303d list, bioacc)	303d List Bioaccum	none	303d List Organo Chlorine Pesticides Bioaccummate	USEPA (Sum of the concentrations of all esters) 940 acute 3 chronic	Sum of the conc of Bromoform, Chloroform, Dibromochl and Dichlorobr	USEPA Human Health - no T and O USEPA Aqua Life - 0.01 of lowest cont flow 96-hr LC50	none	Salinity	Salinity	Average Monthly Int Limit based on highest reported EC conc.	Used to calculate toxicity of metals	Used to calculate toxicity of ammonia	Used to calculate toxicity of ammonia
Reason. Potent.	I	N	N	N	N	N	N	N	N	N	N	N	N

Notes for Table G-3: See Page G-10

TABLE G-3 (continued)
REASONABLE POTENTIAL ANALYSIS-FOR OTHER POLLUTANTS OF CONCERN
(based on last 3 years of data, all units are ug/L unless otherwise specified)

Constituent	Alachlor	Atrazine	Bentazon	Carbofuran	Chlorpyrifos	Cis-1,2-di chloroethene	Dalapon	Di(2- ethylhexyl) adipate	Diazinon	1,2-Dibromo-3- chloropropane (DBCP)	Dinoseb	Diquat	Endothal	Ethylene Dibromide
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
MEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005 J *
Max Back	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Num BPO (site spec, MCL)	MCL 2	MCL 1	MCL 18	MCL 18	No MCL	MCL 6	MCL 200	MCL 400	No MCL	MCL 0.2	MCL 7	MCL 20	MCL 100	MCL 0.05
Narr BPO	Chemical Const., Pesticide, Toxicity	Chemical Const., Pesticide, Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	none	Chemical Const. and Toxicity	Pesticide BPO ND, <0.05	Chemical Const. and Toxicity	none	Chemical Const. and Toxicity	Pesticide BPO ND, <0.05	Chemical Const., Pesticide, Toxicity	Chemical Const., Pesticide, Toxicity	Chemical Const. and Toxicity
Other factors (303d list, bioac)	none	none	none	none	none	none	OCPEst Bioaccum.	none	none	none	OCPEst Bioaccum.	none	none	none
Reason. Potent.	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Constituent	Glyphosat e	Methoxy- chlor	Methyl- tert-butyl ether (MTBE)	Molinate (Ordram)	Oxamyl	Picloram	Simazine	Styrene	Trichlor o-fluoro methane	1,1,2- Trichloro- 1,2,2-Trifluor- ethane	2,4,5-TP (Silvex)	2,4-D	Thiobencarb	Xylenes
LEC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MEC	ND	ND	ND	ND	1.4 J *	ND	ND	ND	ND	ND	ND	ND	ND	0.6
Max Back	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Num BPO (site spec, MCL)	MCL 700	MCL 30	MCL 5	MCL 20	MCL 50	MCL 500	MCL 4	MCL 100	MCL 150	MCL 1200	MCL 50	MCL 70	MCL 1	MCL 1750
Narr BPO	Chemical Const. and Toxicity	Pesticide BPO ND, <0.050	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Chemical Const. and Toxicity	Pesticide BPO ND, <0.050	Pesticide BPO ND, <0.050	Chemical Const. and Toxicity	Chemical Const. and Toxicity
Other factor (303d list, bioacc)	none	303d/OCPEst Bioaccum.	none	none	none	none	none	none	none	none	OCPEst Bioaccum.	OCPEst Bioaccum.	none	none
Reason. Potent.	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Notes for Table G-3: Footnotes, abbreviations, and other notations from Final Rule, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 40 CFR Part 131, FR/Vol. 65, No. 97, 18 May 2000/Rules and Regulations. **E-11** = exponent of 10⁻¹¹, **estimate** = concentration estimated by laboratory, **J** = Detected but Not Quantified or DNQ (estimated by Lab), **Inst Max** = Instantaneous Maximum, **J *** = only one DNQ and no other detections, **NAWQC** = National Ambient Water Quality Criteria, **ND @ 0.002** = Not Detected at a laboratory method detection limit of 0.002 ug/L, **NS** = Not Sampled, **MFL**= Million fibers per Liter, **LEC**= Lowest Effluent concentration, **MEC**= Maximum effluent concentration, **CMC** = Criterion Maximum Concentration, **CCC** = Criterion Continuous Concentration, **MCL** = Maximum Contaminant Limit, **BP** = Basin Plan, **BPO** = Basin Plan Objective, **(d)** = dissolved concentration, **(t)** = total recoverable concentration, **None Est.** = None established, **303d** = impaired waterbody.

Reasonable Potential: (Y) when MEC>most stringent criterion or Max Background concentration >most stringent criterion (and the pollutant is detected in the effluent).

Reasonable Potential: (I) when there is no available/adequate effluent and background data.

Reasonable Potential: (N) when both MEC and Max Background concentration are < most stringent criterion.

**ATTACHMENT H
CONSTITUENTS OF CONCERN**

CTR CONSTITUENTS

Priority Pollutants

1	Antimony	41	1,1,1-Trichloroethane	81	Di-n-butyl Phthalate
2	Arsenic	42	1,1,2-Trichloroethane	82	2,4-Dinitrotoluene
3	Beryllium	43	Trichloroethylene	83	2,6-Dinitrotoluene
4	Cadmium	44	Vinyl Chloride	84	Di-n-Octyl Phthalate
5a	Chromium III	45	2-Chlorophenol	85	1,2-Diphenylhydrazine
5b	Chromium VI	46	2,4-Dichlorophenol	85	Fluoranthene
6	Copper	47	2,4-Dimethylphenol	87	Fluorene
7	Lead	48	2-Methyl-4,6-Dinitrophenol	88	Hexachlorobenzene *
8	Mercury	49	2,4-Dinitrophenol	89	Hexachlorobutadiene
9	Nickel	50	2-Nitrophenol	90	Hexachlorocyclopentadiene
10	Selenium	51	4-Nitrophenol	91	Hexachloroethane
11	Silver	52	4-Chloro-3-Methylphenol	92	Indeno(1,2,3-c,d)Pyrene
12	Thallium	53	Pentachlorophenol *	93	Isophorone
13	Zinc	54	Phenol	94	Naphthalene
14	Cyanide	55	2,4,6-Trichlorophenol	95	Nitrobenzene
15	Asbestos	56	Acenaphthene	96	N-Nitrosodimethylamine
16	2,3,7,8-TCDD (Dioxin)	57	Acenaphthylene	97	N-Nitrosodi-n-Propylamine
17	Acrolein	58	Anthracene	98	N-Nitrosodiphenylamine
18	Acrylonitrile	59	Benzidine	99	Phenanthrene
19	Benzene	60	Benzo(a)anthracene	100	Pyrene
20	Bromoform	61	Benzo(a)pyrene	101	1,2,4-Trichlorobenzene
21	Carbon Tetrachloride	62	Benzo(b)fluoranthene	102	Aldrin *
22	Chlorobenzene	63	Benzo(g,h,i)perlycene	103	Alpha BHC *
23	Chlorodibromomethane	64	Benzo(k)fluoranthene	104	Beta BHC *
24	Chloroethane	65	Bis(2-chloroethoxy) Ether	105	Gamma BHC (Lindane)*
25	2-Chloroethylvinyl ether	66	Bis(2-chloroethyl) Ether	106	Delta BHC *
26	Chloroform	67	Bis(2-chloroisopropyl) Ether	107	Chlordane *
27	Dichlorobromomethane	68	Bis(2-ethylhexyl) Phthalate	108	4,4'-DDT *
28	1,1-Dichloroethane	69	4-Bromophenyl Phenyl Ether	109	4,4'-DDE *
29	1,2-Dichloroethane	70	Butylbenzyl Phthalate	110	4,4'-DDD *
30	1,1-Dchloroethylene	71	2-Chloronaphthalene	111	Dieldrin *
31	1,2-Dichloropropane	72	4-Chlorophenyl Phenyl Ether	112	Alpha Endosulfan *
32	1,3-Dichloropropylene	73	Chrysene	113	Beta Endosulfan *
33	Ethylbenzene	74	Dibenzo(a,h)anthracene	114	Endosulfan Sulfate *
34	Methyl Bromide	75	1,2-Dichlorobenzene	115	Endrin *
35	Methyl Chloride	76	1,3-Dichlorobenzene	116	Endrin Aldehyde *
36	Methylene Chloride	77	1,4-Dichlorobenzene	117	Heptachlor *
37	1,1,2,2-Tetrachloroethane	78	3,3-Dichlorobenzidine	118	Heptachlor Epoxide *
38	Tetrachloroethylene	79	Diethyl Phthalate	119 to	PCBs (Aroclors)
39	Toluene	80	Dimethyl Phthalate	125	
				126	Toxaphene *
40	1,2-trans-Dichloroethylene				

* Persistent Chlorinated Hydrocarbon Pesticides

Attachment H (continued)

NON-CTR CONSTITUENTS OF CONCERN

Standard Minerals:

Boron	Iron	Potassium
Calcium	Magnesium	Sodium
Chloride	Manganese	Total Alkalinity (including alkalinity series)
Hardness	Phosphorus	

Analysis will include verification that the analysis is complete (i.e. cation/anion balance)

Non-CTR Persistent Chlorinated Hydrocarbon Pesticides:

Captan	Dicofol	Mirex
2,4-D	Dinoseb	PCNB (Pentachloronitrobenzene)
2,4-DB	Isodrin (an isomer of Aldrin)	Perthane
2,4-D compounds	Kepone (Chlordecone)	Strobane
Dalapon	MCPA	2,4,5-T
Dicamba	MCPP	2,4,5,TP (Silvex)
Dichloran	Methoxychlor	2,4,5-T compounds
Dichloroprop		

See Attachment A for complete list of Persistent Chlorinated Hydrocarbon Pesticides, including CTR Constituents.

Other Constituents of Concern:

Alachlor	Di(2-ethylhexyl)adipate	Picloram
Atrazine	Endothal	Radionuclides
Barium	Ethylene dibromide	Simazine
Bentazon	Flouride	Styrene
Carbofuran	Glyphosate	Sulfate
Chlorpyrifos	MBAS	Sulfide
Chromium, Total	Methoxychlor	Sulfite
Dalapon	Molinate (ordram)	Thiobencarb
Diazinon	MTBE	Tributyltin
Diquat	Oil and Grease	Trichlorofluoromethane
Dinoseb	Oxamyl	1,1,2-trichloro-1,2,2-trifluoromethane
1,2-dibromo-3-chloropropane (DBCP)	Phosphorus	Xylenes