CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-0032

NPDES NO. CA0084697

WASTE DISCHARGE REQUIREMENTS
FOR

UNITED AUBURN INDIAN COMMUNITY
AUBURN RANCHERIA CASINO
WASTEWATER TREATMENT PLANT
PLACER COUNTY

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

BACKGROUND

1. The United Auburn Indian Community (hereafter Discharger) submitted a Report of Waste Discharge, dated 30 January 2004, and applied for a permit revision to discharge waste under the National Pollutant Discharge Elimination System (NPDES) from the Auburn Rancheria Casino Wastewater Treatment Plant. Supplemental information to complete filing of the application was submitted on 20 February 2004, 7 October 2004, and 22 October 2004.

2. The Discharger owns and operates a wastewater collection, treatment, and disposal system, and provides sewerage service to the Auburn Rancheria Casino, a gaming and entertainment facility. The treatment plant and Casino are in Section 32 and 33, T12N, R6E, MDB&M, as shown on Attachment A, a part of this Order. Treated municipal wastewater is discharged to an unnamed tributary of Orchard Creek, at the point, latitude 38°, 50', 30'' and longitude 121°, 19', 00'' (deg, min, sec), a water of the United States and a tributary to Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River. Treated wastewater is also used to irrigate on-site landscaping for exterior decorative fountains and toilet flushing within the gaming facility.

3. The tertiary treatment system consists of an influent pump station, headworks (flow measurement and fine screening), immersed membrane bioreactor (IMB), and ultraviolet light disinfection. The IMB combines an anoxic zone, aeration, clarification, and membrane filtration into a single tank. The filtration stage is a microfiltration process, in which wastewater is pulled by vacuum through membranes. The filter membrane nominal pore size is 0.1 microns. Sludge is dewatered in sludge stabilization basins and disposed off-site. The Report of Waste Discharge and supplemental information provided by the Discharger describe the wastewater discharge as follows:

Annual Average Daily Flow Rate: 0.225 mgd
Maximum Daily Flow Rate: 0.35 mgd

Constituent	Maximum Daily	Average Daily	Unit
Temperature	96.6 (Summer)	90.1 (Summer)	°F
	86.5 (Winter)	80.4 (Winter)	°F
BOD[1]	20	0.63	mg/l
Total Suspended Solid	19	0.16	mg/l
Total Coliform Organisms	240	4.3	MPN /100 mL
Ammonia (as N)	19	0.74	mg/l
Copper	23	18.5	µg/l
Bromoform	6.7	3.4	µg/l
Dibromochloromethane	28	14.8	µg/l
Dichlorobromomethane	26	13.8	µg/l
Aluminum	32	26	µg/l
Methylene Blue Active Substances (MBAS)	72	62.5	µg/l
Sulfate	70	61.5	mg/l
Nitrate	16	1.8	mg/l
Arsenic	3	2.6	µg/l
Chloroform	16	8.3	µg/l
Atrazine	0.83	0.45	µg/l
Boron	3,500	2,950	µg/l
Fluoride	0.52	0.46	mg/l
Electrical Conductivity (EC)	6,900	1,697	µmhos/cm

[1] 5-day, 20°C biochemical oxygen demand

4. According to the information included in the *February 2004 Engineering Report Addendum* submitted by the Discharger, the wastewater treatment system design was modified prior to construction to expand the following: influent pump capacity, headworks screening capacity, aeration/membrane basins, anoxic basins, recirculation pumps, sludge wasting pumps, air blowers, permeate and back pulse pumps, back pulse tanks, sodium hypochlorite storage and feed system, ultraviolet disinfection facility, and sludge stabilization basins. The current maximum treatment capacity of the WWTP is reported as 0.35 mgd.

5. The U.S. Environmental Protection Agency (EPA) and the Regional Board have classified this discharge as a minor discharge.

6. The Regional Board adopted a *Water Quality Control Plan*, *Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan

designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin. These requirements implement the Basin Plan.

7. The Basin Plan on page IV-24.00 prohibits the direct discharge of municipal and industrial wastes into the Sacramento River from the confluence with the Feather River to the Freeport Bridge. The treated wastewater from the Auburn Rancheria Casino WWTP is not being discharged directly to the Sacramento River. In fact, the discharge enters the unnamed tributary to Orchard Creek, Orchard Creek, Auburn Ravine, the East Side Canal, and the Cross Canal prior to entering the Sacramento River.

BENEFICIAL USES OF THE RECEIVING STREAM

8. The Basin Plan at page II-2.00 states: "Existing and potential beneficial uses which currently apply to surface waters of the basins are presented in Figure II-1 and Table II-1. 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 the unnamed tributary to Orchard Creek, but the Basin Plan does identify present and potential uses for the Sacramento River from the Colusa Basin Drain to "I" Street Bridge, to which the unnamed tributary to Orchard Creek, Orchard Creek, Auburn Ravine, the East Side Canal, and the Cross Canal are tributary.

The Basin Plan identifies the following beneficial uses for the Sacramento River from the Colusa Basin Drain to the "I" Street Bridge: municipal and domestic supply, agricultural irrigation, water contact recreation, canoeing and rafting, non-contact water recreation, warm and cold freshwater aquatic habitat, warm and cold fish migration habitat, warm and cold spawning habitat, wildlife habitat, and navigation. In addition, State Board Resolution No 88-63, incorporated into the Basin Plan pursuant to Regional Board Resolution 89-056, requires the Regional Board to assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in Table II-1.

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 Clean Water Act, 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 Clean Water Act, create a rebuttable presumption that all waters be designated as fishable and swimable. Federal Regulations, 40 CFR Section 131.2 and 131.10, require that

all waters of the State be regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shellfish 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 November 28, 1975, whether or not they are included in the water quality standards. Federal Regulations, 40 CFR Section 131.10 requires that uses be attained 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.

In reviewing whether the existing and/or potential uses of the Sacramento River from the Colusa Basin Drain to the "I" Street Bridge apply to the unnamed tributary to Orchard Creek**,** the Regional Board has considered the following facts:

a. *Municipal and Domestic Supply and Agricultural Irrigation*

The Regional Board is required to apply the beneficial uses of municipal and domestic supply to the unnamed tributary to Orchard Creek based on State Board Resolution No. 88-63 which was incorporated in the Basin Plan pursuant to Regional Board Resolution 89-056. In addition, the State Water Resources Control Board (SWRCB) has issued water rights for irrigation uses (including stockwatering) to existing water users along downstream waters. Riparian Rights, for landowners along streams and rivers, may not be recorded with the SWRCB, which may use the water for domestic and irrigation purposes. Since the unnamed tributary to Orchard Creek is an ephemeral stream, the unnamed tributary to Orchard Creek likely provides groundwater recharge during periods of low flow. The groundwater is a source of drinking water and is also designated as agricultural supply. In addition to the existing water uses, growth in the area, downstream of the discharge is expected to continue, which presents a potential for increased domestic and agricultural uses of the water in the unnamed tributary to Orchard Creek, Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River.

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

The WWTP discharges to the unnamed tributary to Orchard Creek, Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River. The Regional Board finds that there is ready public access to the unnamed tributary to Orchard Creek, Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River. Exclusion or restriction of public use is unrealistic.

c. *Groundwater Recharge*

In areas where groundwater elevations are below the stream bottom, water from the stream will percolate to groundwater. Since the unnamed tributary to Orchard Creek

is at times dry, it is reasonable to assume that the stream water is lost by evaporation, flow downstream and percolation to groundwater providing a source of municipal and irrigation water supply.

d. *Freshwater Replenishment*

When water is present in an unnamed tributary to Orchard Creek, there is hydraulic continuity between the unnamed tributary to Orchard Creek, Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River. During periods of hydraulic continuity, an unnamed tributary to Orchard Creek adds to the water quantity and may impact the quality of water flowing down stream in the Sacramento River.

e. *Warm and Cold Freshwater Habitats (including preservation and enhancement of fish and invertebrates), Warm and Cold Spawning Habitats, and Wildlife Habitat*

The unnamed tributary to Orchard Creek is tributary to Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River. The California Department of Fish and Game (DFG) has verified the presence of both salmon and steelhead (anadromous species) in Auburn Ravine, downstream of the discharge from the Auburn Rancheria Casino. The Basin Plan (Table II-1) designates the Sacramento River, from the Colusa Basin Drain and the "I" Street Bridge, as being both a cold and warm freshwater habitat. The cold-water habitat designation necessitates that the in-stream dissolved oxygen concentration be maintained at, or above, 7.0 mg/l. Pursuant to the Basin Plan Tributary Rule, the cold and warm water habitat designation is applied to an unnamed tributary to Orchard Creek.

Upon review of the flow conditions, habitat values, and beneficial uses of an unnamed tributary to Orchard Creek, and the facts described above, the Regional Board finds that the beneficial uses identified in the Basin Plan for the Sacramento River are applicable to the unnamed tributary to Orchard Creek.

The Regional Board also finds that based on the available information and on the Discharger's application, that an unnamed tributary to Orchard Creek, absent the discharge, is an ephemeral stream. The ephemeral nature of an unnamed tributary to Orchard Creek means that the designated beneficial uses must be protected, but that no credit for receiving water dilution is available. Although the discharge, at times, maintains the aquatic habitat, constituents may not be discharged in concentrations that may cause harm to aquatic life. At other times, natural flows within an unnamed tributary to Orchard Creek help support the aquatic life. Both conditions may exist within a short time span, where the unnamed tributary to Orchard Creek would be dry without the discharge and periods when sufficient background flows provide hydraulic continuity with the Sacramento River. Dry conditions occur primarily in the summer months, but dry conditions may also occur throughout the year, particularly in low rainfall years. The lack of dilution results in more stringent effluent

limitations to protect contact recreational uses, drinking water related uses, agricultural uses and aquatic life. Significant dilution may occur during and immediately following high rainfall events.

NARRATIVE OBJECTIVES

9. The federal Clean Water Act (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 C.F.R., § 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 C.F.R. 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, Section 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*."

10. The Regional Board's Basin Plan, page IV-17.00, contains an implementation policy ("Policy for Application of Water Quality Objectives") that specifies that the Regional 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 Board must establish effluent limitations using one or more of three specified sources, including EPA's published water quality criteria, a proposed state criterion (i.e., water quality objective), or an explicit state policy interpreting its narrative water quality criteria (i.e., the Regional Board's "Policy for Application of Water Quality Objectives")(40 C.F.R. 122.44(d)(1) (vi) (A), (B) or (C)). 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*". 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 beneficial uses. The beneficial uses of surface waters include: municipal and domestic supply, agricultural irrigation, water contact recreation, canoeing and rafting, non-contact water recreation, warm and cold freshwater aquatic habitat, warm and cold fish migration habitat, warm and cold spawning habitat, wildlife habitat, and navigation. Beneficial uses of groundwater include municipal and domestic supply, agricultural supply, and industry supply. The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and organizations will be utilized

in evaluating compliance with the narrative objectives. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water and groundwater beneficial uses. For waters designated as municipal and domestic supply, 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 Board may apply limits more stringent than MCLs. When a reasonable potential exists for exceeding a narrative objective, Federal Regulations mandate numerical effluent limitations and the Basin Plan clearly establishes a procedure for translating the narrative objectives into numerical receiving water and effluent limitations.

EFFLUENT LIMITATIONS AND REASONABLE POTENTIAL

11. The United States Environmental Protection Agency (U.S. EPA) adopted the *National Toxics Rule* (NTR) on 22 December 1992 and the *California Toxics Rule* (CTR) on 18 May 2000. When combined with the beneficial use designations in the Basin Plan, these Rules contain water quality standards applicable to this discharge. The State Water Resources Control Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Plan or SIP) that contains policy for implementation of the *National Toxics Rule* and the *California Toxic Rule criteria*.

12. 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 Board finds that the discharge does have a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for the following constituents:

    a) **Copper:**

    Analytical laboratory results submitted by the Discharger indicate that copper was detected in both effluent samples. The maximum detected effluent concentration of copper was reported at 23 µg/l. The CTR freshwater aquatic life hardness-dependent criteria for copper are presented in dissolved concentrations. U.S. EPA recommended conversion factors to translate dissolved concentrations to total concentrations. The conversion factor for copper in fresh water is 0.960 for both acute and chronic criteria.
    The lowest reported hardness of 67 mg/l collected from the receiving water is used to determine the criteria continuous concentration (four-day average) and the criteria maximum concentration (one-hour average). Using the equations in CTR, the hardness-dependent CTR aquatic life criteria continuous concentration (four-day average) and the criteria maximum concentration (one-hour average) for copper are calculated at 6.6 µg/l and 9.6 µg/l, respectively, as total concentrations.

U.S. EPA human health CTR criterion for copper is 1,300 µg/l (for waters from which both water and aquatic organisms are consumed) as a 30-day average. The maximum detected concentration of copper exceeds freshwater aquatic life CTR criteria. Therefore, the discharge from the Auburn Rancheria Casino WWTP does have a reasonable potential to cause or contribute to an exceedance of freshwater aquatic life CTR criteria for copper. Effluent Limitations for copper are included in this Order and are based on freshwater aquatic life CTR criteria. A time schedule has been included in this Order for compliance with the copper limitation.

b) **Bromoform:**

Analytical laboratory results submitted by the Discharger indicate that bromoform was detecte
d in one of two effluent samples. The maximum detected effluent concentration of bromoform was reported at 6.7 µg/l. U.S. EPA established human health CTR criteria of 4.3 µg/l (for waters from which both water and aquatic organisms are consumed) and 360 µg/l (for waters from which only aquatic organisms are consumed) for bromoform as a 30-day average. The maximum detected effluent concentration of bromoform exceeds the human health CTR criterion for waters from which both water and aquatic organisms are consumed. Because beneficial uses of the receiving waters include municipal and domestic supply, the discharge from the Auburn Rancheria Casino WWTP has a reasonable potential to cause an exceedance of human health CTR criteria for bromoform. Effluent Limitations for bromoform are included in this Order and are based on human health CTR criteria. A time schedule has been included in this Order for compliance with the bromoform limitation.

c) **Dibromochloromethane:**

Analytical laboratory results submitted by the Discharger indicate that dibromochloromethane was detected in both effluent samples. The maximum detected effluent concentration of dibromochloromethane was reported at 28 µg/l. U.S. EPA established human health CTR criteria of 0.41 µg/l (for waters from which both water and aquatic organisms are consumed) and 34 µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average. The maximum detected effluent concentration of dibromochloromethane exceeds the human health CTR criterion for waters from which both water and aquatic organisms are consumed. Because beneficial uses of the receiving waters include municipal and domestic supply, the discharge from the Auburn Rancheria Casino WWTP has a reasonable potential to cause an exceedance of human health CTR criteria for dibromochloromethane. Effluent Limitations for dibromochloromethane are included in this Order and are based on human health CTR criteria. A time schedule has been included in this Order for compliance with the dibromochloromethane limitation.

d) **Dichlorobromomethane:**

Analytical laboratory results submitted by the Discharger indicate that dichlorobromomethane was detected in both effluent samples. The maximum detected effluent concentration of dichlorobromomethane was reported at 26 µg/l. U.S. EPA human health CTR criteria for dichlorobromomethane are 0.56 µg/l (for waters from which both water and aquatic organisms are consumed) and 46 µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average. The maximum detected concentration of dichlorobromomethane exceeds the human health CTR criterion for waters from which both water and aquatic organisms are consumed. Because beneficial uses of the receiving waters include municipal and domestic supply, the discharge from the Auburn Rancheria Casino WWTP has a reasonable potential to cause or contribute to an exceedance of CTR criteria for dichlorobromomethane. Effluent Limitations for dichlorobromomethane are included in this Order and are based on human health CTR criteria. A time schedule has been included in this Order for compliance with the dichlorobromomethane limitation.

e) **Persistent Chlorinated Hydrocarbon Pesticides:**

Analytical laboratory results submitted by the Discharger indicate that endosulfan II and endosulfan sulfate have been detected in the effluent. The maximum detected effluent concentration of endosulfan II was reported at 0.033 µg/l. Endosulfan sulfate was detected at an estimated concentration (reported as "J Flag") of 0.041 µg/l. The Method Detection Limit (MDL) and the Reporting Limit (RL) for endosulfan sulfate were reported at 0.0023 µg/l and 0.05 µg/l, respectively.

The Basin Plan includes a water quality objective for pesticides on page III-6.0, which states: "*No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses*" and that " *Total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer*".

Human health CTR criteria for both endosulfan II and endosulfan sulfate are 110 µg/l (for waters from which both water and aquatic organisms are consumed) and 240 µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average. Freshwater aquatic life CTR criteria continuous concentration (4-day average) and instantaneous maximum concentration for endosulfan II are 0.056 µg/l and 0.22 µg/l, respectively.

The Basin Plan objective is more restrictive than CTR water quality standards for persistent chlorinated hydrocarbon pesticides. The CTR and the SIP state that CTR

standards apply unless the State's approved criteria are more restrictive. The presence of endosulfan II and endosulfan sulfate in the effluent indicates that the discharge from the Auburn Rancheria Casino WWTP has a reasonable potential to cause or contribute to an exceedance of Basin Plan objectives for persistent chlorinated hydrocarbon pesticides. This Order includes an Effluent Limitation for persistent chlorinated hydrocarbon pesticides based on the Basin Plan objective.

f) **Aluminum:**

Analytical laboratory results submitted by the Discharger indicate that aluminum was detected in both effluent samples. The maximum detected effluent concentration of aluminum was estimated at 32 µg/l (reported as "J Flag"). The MDL and the RL for aluminum were reported at 7.9 µg/l and 50 µg/l, respectively.

U.S. EPA has developed Recommended Ambient Water Quality Criteria for protection of freshwater aquatic life. The continuous concentration (as a four-day average) and maximum concentration criteria (as a one-hour average) for aluminum are 87 µg/l and 750 µg/l, respectively. Aluminum exists as aluminum silicate in suspended clay particles, which U.S. EPA acknowledges might be less toxic than other forms of aluminum. Correspondence with U.S. EPA indicates that the criterion is not intended to apply to aluminum silicate. Therefore, a monitoring method that excludes aluminum silicate is likely to be more appropriate. The use of acid-soluble analysis for compliance with the aluminum criterion appears to satisfy U.S. EPA.

Using the methodology in the U.S. EPA's Technical Support Document (TSD) for Water Quality-Based Toxics Control, the projected MEC of aluminum is calculated at 237 µg/l. The projected MEC of aluminum exceeds the Recommended Ambient Water Quality Criteria. Therefore, the discharge from the Auburn Rancheria Casino WWTP has a reasonable potential to cause an exceedance of the Basin Plan narrative toxicity objective. This Order includes Effluent Limitations for aluminum based on the Basin Plan narrative toxicity objective applied utilizing the EPA Recommended Ambient Water Quality Criteria.

g) **Atrazine:**

Analytical laboratory results submitted by the Discharger indicate that atrazine was detected in one of two effluent samples. The maximum detected effluent concentration of atrazine was estimated at 0.83 µg/l (reported as "J Flag"). The MDL and RL for atrazine were reported at 0.06 µg/l and 1.0 µg/l, respectively. Using the TSD reasonable potential analysis, the projected MEC of atrazine is calculated at 6.1 µg/l.

California DHS has adopted a Primary MCL of 1.0 µg/l for atrazine. The projected MEC of atrazine exceeds the Primary MCL, it indicates that the discharge from the Auburn Rancheria Casino WWTP does have a reasonable potential to cause an in-stream excursion above a water quality standard for atrazine.

To protect the municipal and domestic water supply beneficial use, this Order includes a monthly average concentration-based Effluent Limitation for atrazine based on the Basin Plan chemical constituents objective at the Primary MCL of 1.0 µg/l.

h) **Boron**:

Analytical laboratory results submitted by the Discharger indicate that boron was detected in both effluent samples. The maximum detected effluent concentration of boron was reported at 3,500 µg/l. The Agricultural Water Quality Goal for boron is 700 µg/l (Ayers, R. S. and D. W. Westcot, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations - Irrigation and Drainage Paper No. 29, Rev. 1, Rome, 1985). The DHS drinking water Action Level, based on human health, is 1,000 µg/l.

Using the TSD reasonable potential analysis, the projected MEC of boron is calculated at 25,900 µg/l. The maximum detected effluent concentration of boron exceeds both the Agricultural Goal and the Action Level. Agricultural irrigation and municipal and domestic supply are beneficial uses of the Sacramento River and tributaries downstream of the discharge from the Auburn Rancheria Casino WWTP. Undiluted wastewater effluent can be withdrawn from the receiving water for agricultural irrigation. Therefore, to protect the agricultural beneficial use, an Effluent Limitation for boron is included in this Order as a monthly average, based on the chemical constituents narrative objective applied using the Agricultural Goal.

i) **Fluoride:**

Analytical laboratory results submitted by the Discharger indicate that fluoride was detected in both effluent samples. The maximum detected effluent concentration of fluoride was reported at 520 µg/l. Using the TSD reasonable potential analysis, the projected MEC of fluoride is calculated at 3,848 µg/l.

California DHS established a Primary MCL for fluoride of 2,000 µg/l. The Agricultural Water Quality Goal for fluoride is 1,000 µg/l (Ayers and Westcot). The projected MEC of fluoride exceeds the Agricultural Goal. Agricultural irrigation is

designated as a beneficial use of the Sacramento River, downstream of the discharge from the Auburn Rancheria Casino WWTP. Undiluted wastewater effluent can be withdrawn from the receiving water for agricultural irrigation. In addition, the California Office of Environmental Health Hazard Assessment has adopted a Public Health Goal (PHG) for fluoride in drinking water of 1,000 µg/l, indicating that the MCL may not "prevent detrimental physiological responses" in humans, as is required by the narrative toxicity objective. The projected MEC of fluoride also exceeds the narrative toxicity objective, as applied using the PHG. Therefore, to protect the agricultural, municipal and domestic beneficial uses, an Effluent Limitation for fluoride is included in this Order as a monthly average.

j) **Methylene Blue Active Substances (MBAS):**

Analytical laboratory results submitted by the Discharger indicate that MBAS was detected in both effluent samples. The maximum detected effluent concentration of MBAS was estimated at 72 µg/l (reported as "J Flag"). The MDL and RL of MBAS were reported at 21 µg/l and 100 µg/l, respectively. Using the TSD reasonable potential analysis, the projected MEC for MBAS is calculated at 533 µg/l.

California DHS established a Secondary MCL for MBAS of 500 µg/l. The projected MEC of MBAS exceeds the Secondary MCL. To protect the municipal and domestic water supply beneficial use, this Order includes a monthly average concentration-based Effluent Limitation for MBAS based on the Basin Plan chemical constituents objective at the Secondary MCL of 500 µg/l.

k) **Nitrate (as N):**

Untreated domestic wastewater contains ammonia. Nitrification is a biological process that converts ammonia to nitrate, and denitrification is a process that converts nitrate to nitrogen gas, which is then released to the atmosphere. Wastewater treatment plants commonly use nitrification process to remove ammonia from the waste stream. Inadequate or incomplete nitrification or denitrification may result in the discharge of ammonia or nitrate to the receiving stream. Recent toxicity studies have indicated that a possibility that nitrate in the discharge is toxic to aquatic organisms.

Analytical laboratory results submitted by the Discharger indicate that nitrate (as N) was detected in the effluent at a maximum concentration of 16,000 µg/l. Using the TSD reasonable potential analysis, the projected MEC of nitrate is calculated at 16,000 µg/l. California DHS established a Primary MCL equivalent to 10,000 µg/l for nitrate (as N). An Effluent Limitation for nitrate is included in existing Waste Discharge Requirements, Order No. 5-01-068, in accordance with the Basin Plan chemical constituents objective.

The maximum detected effluent concentration of nitrate exceeds the monthly average Effluent Limitation contained in the existing permit. Therefore, nitrate has violated and presents a reasonable potential to cause or contribute to an exceedance of permit limitations. The monthly average concentration-based Effluent Limitation for nitrate as contained in the existing permit is continued in this Order.

l) **Sulfate:**

Analytical laboratory results submitted by the Discharger indicate that sulfate was detected in both effluent samples. The maximum detected effluent concentration of sulfate was reported at 70,000 µg/l. Using the TSD reasonable potential analysis, the projected MEC of sulfate is calculated at 518,0000 µg/l. California DHS established a Secondary MCL for sulfate of 250,000 µg/l, respectively. In addition, the U.S EPA Recommended Ambient Water Quality Criterion to protect human welfare is also 250,000 µg/l.

The maximum detected effluent concentration of sulfate exceeds the Secondary MCL and the U.S. EPA Recommended Criterion. To protect the municipal and domestic beneficial use, this Order includes a monthly average concentration-based Effluent Limitation of 250,000 µg/l for sulfate based on the Basin Plan chemical constituent objective at the Secondary MCL.

m) **Arsenic**:

Analytical laboratory results submitted by the Discharger indicate that arsenic was detected in both effluent samples. The maximum detected effluent concentration of arsenic was reported at 3 µg/l. Pursuant to the Basin Plan Tributary Rule, the municipal and domestic water supply beneficial use designation of the Sacramento River is applied to an unnamed tributary to Orchard Creek. For beneficial use that is designated as municipal water and domestic water supply, the Basin Plan prohibits the discharge that contains chemicals in concentrations that exceed California drinking water Maximum Contaminant Levels (MCLs) and toxic substances in toxic amounts. U.S. EPA freshwater aquatic life CTR criteria for arsenic are 150 µg/l (as a four-day average) and 340 µg/l (as a one-hour average). The California DHS Primary MCL for arsenic is 50 µg/l. On 31 October 2001, U.S. EPA adopted a new drinking water standard for arsenic. The new U.S. EPA Primary MCL for arsenic is 10 µg/l. The Safe Drinking Water Act requires California DHS to adopt a Primary MCL at least as low as the U.S EPA Primary MCL. To protect drinking water-related uses in a longer term, it is reasonable to require compliance with the U.S. EPA Primary MCL for arsenic until California DHS adopts a new California Primary MCL. The drinking water standards for arsenic are lower than the aquatic life CTR criteria. Therefore, to protect the municipal and domestic beneficial uses, newer U.S. EPA drinking water

standards shall be used to establish effluent limitations. Using the TSD reasonable potential analysis, the projected MEC of arsenic is calculated at 22 µg/l. The projected MEC of arsenic exceeds the U.S. EPA Primary MCL. To protect the municipal and domestic beneficial use, this Order includes a monthly average concentration-based Effluent Limitation of 10 µg/l for arsenic based on the Basin Plan chemical constituent objective at the U.S. EPA Primary MCL.

n) **Total Trihalomethanes and Chloroform:**

Analytical laboratory results submitted by the Discharger indicate that chloroform was detected in both effluent samples at a maximum concentration of 16 µg/l. Chloroform is included in the CTR. However, no CTR criteria for chloroform have yet been established. Therefore, the reasonable potential analysis for non-CTR constituents is applied to chloroform to determine whether chloroform causes or has a reasonable potential to cause an exceedance of a water quality criterion or objective. Using the TSD reasonable potential analysis, the projected MEC of chloroform is calculated at 118 µg/l.

The Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA) has published the Toxicity Criteria Database, which contains cancer potency factors for chemicals, including chloroform, that have been used as a basis for regulatory actions by the boards, departments and offices within Cal/EPA. The OEHHA cancer potency value for oral exposure to chloroform is 0.031 milligrams per kilogram body weight per day (mg/kg-day). By applying standard toxicologic assumptions used by OEHHA and U.S. EPA in evaluating health risks via drinking water exposure of 70 kg body weight and 2 liters per day water consumption, this cancer potency factor is equivalent to a concentration in drinking water of 1.1 ug/L (ppb) at the one-in-a-million cancer risk level. This risk level is consistent with that used by the DHS to set *de minimus* risks from involuntary exposure to carcinogens in drinking water in developing MCLs and Action Levels and by OEHHA to set negligible cancer risks in developing Public Health Goals for drinking water. The one-in-a-million cancer risk level is also mandated by U.S.EPA in applying human health protective criteria contained in the NTR and the CTR to priority toxic pollutants in California surface waters. Since no drinking water intakes are likely to exist where the ingestion of water is equivalent to the level used in development of the cancer risk assessment downstream of the discharge from the Auburn Rancheria Casino WWTP; therefore, setting a chloroform effluent limitation based on a cancer risk analysis is not appropriate. Although application of the cancer risk criteria is inappropriate, protection of the municipal water supply is necessary and appropriate. The Primary MCL for total trihalomethanes, the sum of bromoform, bromodichloromethane, chloroform, and dibromochloromethane, is 80 µg/l.

The projected MEC of chloroform exceeds the Primary MCL. It indicates that the discharge from the WWTP does have a reasonable potential to cause an in-stream excursion above the water quality objective for chemical constituents to protect municipal and domestic supply uses. Therefore, an Effluent Limitation for total trihalomethanes is included in this Order and is based on the Basin Plan objective for municipal use. If U.S. EPA or the State Board develops a water quality objective for chloroform and/or total trihalomethanes, this Order may be reopened and a new Effluent Limitation established.

o) **Total Chlorine Residual:**

Chlorine is commonly used as a disinfection agent in the treatment of the wastewater. Proper disinfection ensures destruction of pathogens prior to discharge to the surface waters. The Discharger adds sodium hypochlorite (NaOCl) into the backpulse flow during the period of the backpulse sequence to inhibit biogrowth in the membrane modules. Sodium hypochlorite is unstable and can release chlorine gas if acidified. Chlorine combines with natural organic matter to form cancer-causing compounds known as trihalomethanes. A side reaction to the oxidation reactions of hypochlorite is chlorination of organic molecule to form by-products. The use of sodium hypochlorite as a disinfectant presents a reasonable potential that it could be discharged in toxic concentrations.

U.S. EPA has developed Recommended Ambient Water Quality criteria for the protection of freshwater aquatic life. The recommended maximum one-hour average and four-day average concentrations for chlorine are 0.019 mg/l and 0.011 mg/l, respectively. This Order includes a one-hour average Effluent Limitation of 0.02 mg/l and four-day average Effluent Limitation of 0.01 mg/l for chlorine based on the Basin Plan narrative toxicity objective utilizing Recommended Ambient Water Quality criteria.

p) **Electrical Conductivity (EC):**

The Auburn Rancheria Casino discharges treated wastewater to an unnamed tributary to Orchard Creek, Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River. The Basin Plan, Table II-1, designates Irrigated Agriculture as a beneficial use of the Sacramento River. Water Rights have been issued by the State Water Resources Control Board to divert water from downstream waters of the Casino's discharge for irrigation purposes.

The Basin Plan states, on Page III-3.00 Chemical Constituents, that "*Waters shall not contain constituents in concentrations that adversely affect beneficial uses*." The Basin Plan's "Policy for Application of Water Quality Objectives" provides that in

implementing narrative water quality objectives, the Regional Board will consider numerical criteria and guidelines developed by other agencies and organizations. This application of the Basin Plan is consistent with Federal Regulations, 40 CFR 122.44(d).

For EC, Ayers R.S. and D.W. Westcott, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985), levels above 700 µmhos/cm will reduce crop yield for sensitive plants. The University of California, Davis Campus, Agricultural Extension Service, published a paper, dated 7 January 1974, stating that there will not be problems to crops associated with salt if the EC remains below 750 µmhos/cm.

Analytical laboratory results submitted by the Discharger indicate that of 196 effluent samples for EC, the maximum concentration was 6,900 µmhos/cm and the average discharge concentration was 1,697 µmhos/cm. The wastewater discharge presents a reasonable potential to causes violation of the Chemical Constituent Water Quality Objective in the Basin Plan. The available literature regarding safe levels of EC for irrigated agriculture were considered in requiring that an Effluent Limitation for EC is necessary to protect the beneficial use of the receiving stream in accordance with the Basin Plan and Federal Regulations. To protect the agricultural irrigation beneficial use of the receiving stream, this Order includes an Effluent Limitation of 700 µmhos/cm based on the Agricultural Goal.

q) **Ammonia:**

Untreated domestic wastewater contains ammonia. Nitrification is a biological process that converts ammonia to nitrate, and denitrification is a process that converts nitrate to nitrogen gas, which is then released to the atmosphere. Wastewater treatment plants commonly use nitrification process to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream.

In water, un-ionized ammonia (NH_3) exists in equilibrium with the ammonium ion (NH_4^+). The toxicity of aqueous ammonia solutions to aquatic organisms is primarily attributable to the un-ionized ammonia form, with the ammonium ion being relatively less toxic. Total ammonia refers to the sum of these two forms in aqueous solutions. Analytical methods are used to directly determine the total ammonia concentration, which is then used to calculate the un-ionized ammonia (toxic) concentration in water.
U.S. EPA's Recommended Ambient Water Quality criteria for the protection of freshwater aquatic life include acute (one-hour average) criteria based on pH and the presence or absence of salmonids, and chronic (30-day average) criteria based on pH, temperature, and the presence or absence of early life stages of aquatic organisms. U.S. EPA found that as pH increased, both the acute and chronic toxicity of ammonia

increased. Salmonids are more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia as not influenced by the temperature, it has been found that inverterbrates and young fish experienced increasing chronic toxicity effects with increasing temperature. Warm and cold freshwater aquatic habitat is designated as beneficial uses of the Sacramento River, which is downstream from an unnamed tributary to Orchard Creek. Pursuant to the Basin Plan Tributary Rule, the warm and cold freshwater aquatic habitat beneficial use is also applied to an unnamed tributary to Orchard Creek. In fact, the California DFG has verified the presence of salmon in Auburn Ravine, downstream of the discharge from the Auburn Rancheria Casino.

Using the worst-case for pH, with a maximum of 8.25, and temperature, with a maximum of 35.9ºC, and assuming the presence of both salmonids and early life stages, the criteria continuous concentration (30-day average) and the criteria maximum concentration (one-hour average) for ammonia are calculated at 0.42 mg/l and 3.5 mg/l, respectively, both measured as total ammonia nitrogen.

The discharge from the Auburn Rancheria Casino WWTP has a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan narrative toxicity objective. Therefore, this Order includes 30-day average and one-hour average concentration-based Effluent Limitations for total ammonia nitrogen based on the Basin Plan narrative toxicity objective and the U.S. EPA Recommended Ambient Water Quality Criteria.

13. As stated in the above Findings, the U.S. EPA adopted the NTR and the CTR, which contain water quality standards applicable to this discharge and the SIP contains guidance on implementation of the NTR and CTR. The SIP, Section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional 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; include interim compliance dates separated by no more than one year, and; be included in the Provisions. The interim limitations in this Order are 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 limitations in this Order are established as the mean plus 3.3 standard deviations of the available data. Where actual sampling shows an exceedance of the proposed 3.3-standard deviation interim limit, the maximum detected concentration has been established as the interim limitation. 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 sampling point to obtain the daily maximum interim limitation (TSD, Table 5-2). The Regional 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 NTR- and CTR-based 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 degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. For example, U.S. EPA states in the Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life for copper, that it will take an unstressed system approximately three years to recover from a pollutant in which exposure to copper exceeds the recommended criterion. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the Effluent Limitation can be achieved.

14. The SIP, Section 2.1, provides that: "*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 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."* This Order requires the Discharger to provide this information. The new water quality based effluent limitations for copper, bromoform, dibromochloromethane, and dichlorobromomethane become effective on **1 June 2005** if a compliance schedule justification is not completed and submitted by the Discharger to the Regional Board. Otherwise, final water quality based effluent limitations for copper, bromoform, dibromochloromethane, and dichlorobromomethane become effective on **11 March 2008.**

15. On 10 September 2001, the Executive Officer issued a letter, in conformance with California Water Code, Section 13267 (also known as "13267 letter"), requiring the Discharger to prepare a technical report assessing water quality. According to this letter, the Discharger was required to submit a full-year, with a total of four samples, of monitoring data for all constituents listed in the Attachment I of this letter. However, the full wastewater

characterization was not submitted as a part of the Report of Waste Discharge. 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. This Order contains provisions that:

a. require the Discharger to conduct a full-year study to provide information as to whether the levels of U.S EPA Priority Pollutants and all other constituents specially listed in the Attachment I of the 13267 letter in the discharge have the reasonable potential to cause or contribute to an in-stream excursion above a water quality standard, including Basin Plan numeric and narrative objectives and water quality standards, objectives, and criteria;

b. if the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard, require the Discharger to submit sufficient information to calculate effluent limitations for those constituents; and

c. allow the Regional Board to reopen this Order and include effluent limitations for those constituents.

16. 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 an increase in the volume and mass of pollutants discharged. The increase 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 the expansion of the gaming and entertainment facility. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge.

17. The Basin Plan, on page III-8.00, requires that receiving water temperatures not be increased by more than 5ºF above the natural receiving water temperature. Analytical laboratory results submitted by the Discharger indicated that the wintertime daily average temperature and the daily maximum temperature in the effluent were 80.4ºF and 86.5ºF, respectively. The beneficial uses of the Sacramento River, downstream of the unnamed tributary to Orchard Creek, include warm and cold freshwater habitat and spawning. This Order requires the Discharger to conduct a study of the thermal impacts of the discharge on the beneficial uses of the unnamed tributary to Orchard Creek.

18. The Clean Water Act, Section 303(a-c), required states to adopt numeric criteria where they are necessary to protect designated uses. The Regional Board adopted numeric criteria in the

Basin Plan. The Basin Plan is a regulatory reference for meeting the state and federal requirements for water quality control (40 CFR 131.20). State Board Resolution No. 68-16, the Antidegradation Policy, does not allow changes in water quality to result in water quality less than that prescribed in Water Quality Control Plans (Basin Plans). The Basin Plan states that; "*The 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*." This Order contains Receiving Water Limitations based on the Basin Plan numerical and narrative water quality objectives for 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.

GROUNDWATER

19. The Discharger contains all wastewater flows in systems that do not utilize land disposal. All wastewater is contained in treatment units. The wastewater collection and treatment systems do not threaten groundwater quality. The discharge shall not degrade groundwater quality.

COLLECTION SYSTEM

20. 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. Conveyance facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage/conveyance facilities.

The chief causes of sanitary sewer overflows include lack of maintenance, blockages due to grease, roots, and debris, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, storm water or groundwater inflow/infiltration, insufficient capacity, and contractor caused blockages.

Sanitary sewer overflows often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen demanding organic compounds, oil and grease, and other pollutants. Sanitary sewer overflows can cause exceedance of applicable water quality objectives, pose a threat to public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters in the area.

The Discharger is responsible for all necessary steps to adequately maintain and operate its sanitary sewer collection system.

RECLAIMED WATER

21. The California Department of Health Services (DHS) has established statewide reclamation criteria in Chapter 3, Division 4, Title 22, California Code of Regulations (CCR), Section 60304, et seq. (Hereafter Title 22) for the use of reclaimed water. The DHS has also established Guidelines for Use of Reclaimed Water. These requirements implement the reclamation criteria in Title 22.

22. Uses of reclaimed water other than those identified in Title 22 are not regulated or allowed by this Order.

23. Reclaimed water is a waste and, as such, any discharge to surface water must be regulated under the National Discharge Elimination System (NPDES). The discharge of wastes may not cause degradation of groundwater in accordance with the State Board's Antidegradation Policy. Reclaimed Water Prohibitions have been included in this Order to assure that: reclaimed water is not discharged to surface waters; the by-pass or overflow of untreated or partially treated reclaimed water is prohibited; excessive irrigation does not result in excessive runoff; overspray or runoff is minimized; and, reclaimed water is not used or stored within 50 feet of any well used for domestic water supply.

24. State Board Resolution No. 77-1, *Policy with Respect to Water Reclamation in California*, encourages recycling projects that replace or supplement the use of fresh water, and *The Water Recycling Law* (CWC sections 13500-13529.4) declares that utilization of reclaimed water is of primary interest to people of the State in meeting future water needs.

25. In 1996, the State Board and the DHS set forth principles, procedures, and agreements to which the agencies committed themselves, relative to the use of reclaimed water in California, in a document titled *Memorandum of Agreement Between the Department of Health Services and The State Water Resources Control Board On The Use of Reclaimed Water* (MOA). This Order is consistent with the MOA.

26. A 1988 Memorandum of Understanding between the California Department of Health Services (DHS) and the State Board on the use of reclaimed water establishes basic principles relative to the two agencies and the regional boards. The Memorandum allocates primary areas of responsibility and authority between the agencies and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to use of reclaimed water.

27. Reclaimed Water Limitations have been included in this Order to assure compliance with requirements contained in Title 22 and the DHS - State Board MOA.

28. This use of reclaimed water is exempt from the requirements of Title 23, CCR, section 2510, et seq. (hereafter Chapter 15) and Title 27, CCR, pursuant to Section 2511(b) based on the following:

    a. The reclamation complies with the Basin Plan, and

    b. The reclaimed water does not need to be managed according to 22 CCR, Division 4.5, Chapter 11, as a hazardous waste.

    c. The Regional Board has issued waste discharge requirements for the discharge.

GENERAL

29. Monitoring is required by this Order for the purposes of assessing compliance with permit limitations and water quality objectives and gathering information to evaluate the need for additional limitations.

30. This Order prohibits bypass from any portion of the treatment facility as required in *Standard Provisions and Reporting Requirements, For Waste Discharge Requirements, 1 March 1991, General Provisions, No. 13.* 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 Board's prohibition of bypasses, the State Water Resources Control Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the Federal Regulations, 40 CFR 122.41(m), as allowing bypass only for essential maintenance to assure efficient

    operation. In the case of United States v. City of Toledo, Ohio (63 F. Supp 2d 834, N.D. Ohio 1999) the Federal Court ruled that "any bypass which occurs because of inadequate plant capacity is unauthorized…to the extent that there are 'feasible alternatives', including the construction or installation of additional treatment capacity".

    The Federal Clean Water Act, Section 301, requires that not later than 1 July 1977, publicly owned wastewater treatment works meet effluent limitations based on secondary treatment or any more stringent limitation necessary to meet water quality standards. Federal Regulations, 40 CFR, Part 133, establish the minimum level of effluent quality attainable by secondary treatment for BOD, TSS, and pH. Tertiary treatment requirements for BOD and TSS are based on the technical capability of the process. Biochemical oxygen demand (BOD) is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The solids, total suspended (TSS) and settleable (SS), content is also an important characteristic of wastewater. The secondary and tertiary treatment standards for BOD and TSS are indicators of the effectiveness of the treatment processes.

The principal infectious agents (pathogens) that may be present in raw sewage may be classified into three broad groups: bacteria, parasites, and viruses. Secondary treatment has been shown to be effective for pathogen removal. For additional pathogen reduction, 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.

A wet weather influent wastestream may contain significantly diluted levels of BOD and TSS. A bypassed diluted wastestream may have BOD and TSS levels that meet the secondary or tertiary objectives, either alone or when blended with treated wastewater. However, the bypassed wastestream would not have been treated to reduce pathogens or other

individual pollutants. The indicator parameters of BOD and TSS cannot be diluted to a level that may indicate the adequate treatment has occurred as an alternative to providing appropriate treatment.

31. 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.

32. The discharge is presently governed by Waste Discharge Requirements Order No. 5-01-068 adopted by the Regional Board on 16 March 2001.

33. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, *et seq*.), requiring preparation of an environmental impact report or negative declaration in accordance with Section 13389 of the California Water Code.

34. 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.

35. The Basin Plan states that "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.*" The Basin Plan requires that "*as a minimum, compliance with this objective…shall be evaluated with a 96-hour bioassay.*" Order No. R5-2005-0032 requires both acute and chronic toxicity monitoring to evaluate compliance with this water quality objective. The Basin Plan also states: "*…effluent limits based upon acute biotoxicity tests of effluents will be prescribed…*" Effluent limitations for acute toxicity are included in the Order.

36. The Regional Board has considered the information in the attached Information Sheet in developing the Findings of this Order. The attached Information Sheet and Attachment A are part of this Order.

37. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

38. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

39. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect upon the date of hearing, provided EPA has no objections.

IT IS HEREBY ORDERED that Order No. 5-01-068 is rescinded and the United Auburn Indian Community, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions:

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

2. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision A.13. [See attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)"], dated February 2004.

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

B. Reclaimed Water Prohibitions:

1. The discharge of reclaimed water to surface waters is prohibited.

2. By-pass or overflow of untreated or partially treated reclaimed water from the wastewater treatment plant, any intermediate unit processes, or the reclamation distribution system to the point of use is prohibited.

3. Excessive irrigation with reclaimed water, which results in excessive runoff of reclaimed water, or continued irrigation of reclaimed water during periods of rain is prohibited. Overspray or runoff associated with normal sprinkler use shall be minimized.

4. Application or impoundment of reclaimed water within 50 feet of any well used for domestic water supply is prohibited, unless approved by the Department of Health Services Drinking Water Branch.

5. The use of reclaimed water shall not cause the degradation of groundwater.

6. Discharge of waste classified as hazardous, as defined in Sections 2521(a) of Title 23, CCR, Section 2510, et seq., (hereafter Chapter 15), or 'designated', as defined in Section 13173 of the California Water Code, is prohibited.

C. Effluent Limitations:

1. Effluent from the wastewater treatment plant shall not exceed the following limits:

Constituents	Units	Monthly Average	Weekly Average	7-day Median	Daily Maximum	Daily Average	Instantaneous Maximum
BOD[1]	mg/l	10[2]	15[2]	---	---	20[2]	---
	lbs/day[3]	29	44	---	---	58	---
Total Suspended Solids	mg/l	10[2]	15[2]	---	---	20[2]	---
	lbs/day[3]	29	44	---	---	58	---
Total Coliform Organisms	MPN/ 100ml	---	---	2.2	---	---	23
Settleable Solids	ml/l	0.1	---	---	0.2	---	---
Turbidity	NTU	---	---	---	5.0[4]	2.0	---
Persistent Chlorinated Hydrocarbon Pesticides	µg/l	---	---	---	ND[5]	---	---
Aluminum[2,6]	µg/l	71	---	---	---	143	---
	lbs/day[3]	0.21	---	---	---	0.42	---
Atrazine	µg/l	1.0	---	---	---	---	---
	lbs/day[3]	0.003	---	---	---	---	---
Boron	µg/l	700	---	---	---	---	---
	lbs/day[3]	2.0	---	---	---	---	---
Fluoride	µg/l	1,000	---	---	---	---	---
	lbs/day[3]	2.9	---	---	---	---	---
Methylene Blue Active Substances (MBAS)	µg/l	500	---	---	---	---	---
	lbs/day[3]	1.5	---	---	---	---	---
Nitrate (as N)	µg/l	10,000	---	---	---	---	---
	lbs/day[3]	29	---	---	---	---	---
Sulfate	µg/l	250,000	---	---	---	---	---
	lbs/day[3]	730	---	---	---	---	---
Arsenic[2]	µg/l	10	---	---	---	---	---
	lbs/day[3]	0.03	---	---	---	---	---
Total Trihalomethanes[7]	µg/l	80	---	---	---	---	---
	lbs/day[3]	0.23	---	---	---	---	---
Electrical Conductivity (EC)	µmhos/ cm	700	---	---	---	---	---

1 5-day, 20°C biochemical oxygen demand (BOD)

2 To be ascertained by a 24-hour composite

3 Based upon a maximum daily treatment capacity of 0.35 mgd

4 The turbidity shall not exceed 5 NTU more than 5 percent of the time within a 24-hour period. At no time shall the turbidity exceed 10 NTU.

5 ND (non-detectable), the non-detectable limitation applies to each individual pesticide at any detection level. No individual pesticide may be present in the discharge at detectable concentrations. The Discharger shall use EPA standard analytical techniques that have the lowest possible detectable level for persistent chlorinated hydrocarbon pesticides.

6 Compliance 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 U.S. EPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate as approved by the Executive Officer.

7 Total trihalomethanes is the sum of bromoform, bromodichloromethane, chloroform and dibromochloromethane.

Constituents	Units	Monthly Average	Four-day Average	One-hour Average
Total Chlorine Residual	mg/l	---	0.01	0.02
	lbs/day[1]	---	0.03	0.06
Ammonia	mg/l	0.42	---	3.5
	lbs/day[1]	1.2	---	10.2

[1] Based on a maximum daily treatment capacity of 0.35 mgd.

2. Effluent from the wastewater treatment plant shall not exceed the following CTR limits:

Constituents	Units	Monthly Average	Daily Average	Daily Maximum
Copper[1,2]	mg/l	1.6	3.1	---
	lbs/day[3]	0.0047	0.0091	---
Bromoform[1]	µg/l	4.3	---	8.6
	lbs/day[3]	0.013	---	0.03
Dibromochloromethane[1]	µg/l	0.41	---	0.82
	lbs/day[3]	0.001	---	0.002
Dichlorobromomethane[1]	µg/l	0.56	---	1.1
	lbs/day[3]	0.002	---	0.003

[1] Effluent limitations C.2 for copper, bromoform, dibromochloromethane, and dichlorobromomethane shall become effective from **1 June 2005 forward** if a compliance schedule justification meeting the requirements of Section 2.1 of the SIP is not completed and submitted by the Discharger. Otherwise the new final Effluent Limitations C.2 for copper, bromoform, dibromochloromethane, and dichlorobromomethane shall become effective from **11 March 2008 forward.** See Provision No. 5 for more detail.

[2] To be ascertained by a 24-hour composite

[3] Based on a maximum daily treatment capacity of 0.35 mgd.

3. Effluent from the wastewater treatment plant shall not exceed the following interim priority pollutant limits:

Constituents	Unit	Daily Average	Daily Maximum
Copper[1]	µg/l	72	---
	lbs/day[2]	0.21	---
Bromoform[1]	µg/l	---	21
	lbs/day[2]	---	0.06
Dibromochloromethane[1]	µg/l	---	87
	lbs/day[2]	---	0.25
Dichlorobromomethane[1]	µg/l	---	81
	lbs/day[2]	---	0.24

[1] If a compliance schedule justification meeting the requirements of Section 2.1 of the SIP is completed and submitted by the Discharger, full compliance with Effluent Limitations C. 2 above are required from **11 March 2008 forward**, and **prior to 11 March 2008**, effluent shall not exceed Interim Effluent Limits C. 3 above. See Provision No. 5 for more detail.

[2] Based on a maximum daily treatment capacity of 0.35 mgd.

4. The arithmetic mean of 20°C BOD (5-day) and total suspended solids in effluent samples collected over a monthly period shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal).

5. The discharge shall not have a pH less than 6.5 nor greater than 8.5.

6. The maximum daily influent flow shall not exceed 0.35 million gallons.

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

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

D. Reclaimed Water Limitations:

1. The tertiary reclaimed water shall, at a minimum, be adequately oxidized, coagulated, filtered, and disinfected. The microfiltration system, as described in the Report of Waste Discharge, is considered an equivalent system. The median concentration of total coliform bacteria in the disinfected effluent shall not exceed a most probable number (MPN) of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria shall not exceed an MPN of 240 total coliform bacteria per 100 milliliters.

2. Disinfected tertiary treated wastewater for unrestricted use shall be continuously sampled for turbidity using a continuous turbidity meter and recorder at a point prior to filtration and again following filtration. Turbidity measurements shall be based on a reading and recording of the turbidity strip charts or computer records at four-hour intervals at least once per day. Compliance with the daily average operating turbidity shall be determined by averaging the results of all four-hour turbidity samples read during the day. The results of the daily average turbidity determinations shall be reported monthly to the Board, except non-compliance shall be reported immediately. The turbidity of the filter effluent shall not exceed 2 NTU as a daily average, nor 5 NTU at any time. Reclaimed water in excess of the turbidity limits shall not enter the reclamation distribution system.

3. The use of reclaimed water shall not cause a statistically significant increase of nitrate or salt concentrations in underlying ground water.

4. The use of reclaimed water shall not cause concentrations of chemicals and radionuclides in ground water to exceed limits set forth in Title 22, Division 4, Chapter 15, Articles 4, 5, 5.5, and 16 of the California Code of Regulations or to exist in concentrations that cause nuisance, produce detrimental physiologic responses in humans, plants or animals, or adversely affect beneficial uses.

E. Reclaimed Water Specifications:

1. Reclaimed water used for irrigation shall meet the criteria contained in Title 22, CCR.

2. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations.

3. Neither the treatment nor the discharge shall cause a nuisance or condition of pollution as defined by the California Water Code, Section 13050.

4. The Discharger shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.

5. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment plant site boundaries.

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

7. Perimeter warning signs indicating that recycled water is in use shall be posted as precribed in the User's Reclamation Plan, which is subject to approval, by the Board and the Department of Health Services (DHS).

8. Reclaimed water controller, valves, and similary appurtenances shall be affixed with reclaimed water warning signs, and shall be equipped with removable handles, locking mechanisms, or some other means to prevent public access or tampering. The contents of the signs shall conform to Section 60310 of Title 22. Quick couplers and sprinkler heads, if used, shall be of a type, or secured in a manner, that permits operation only by authorized personnel. Hose bibs that the public could use shall be eliminated.

9. Any connection between the reclaimed water conveyance system and any potable water conveyance system, groundwater supply well, or surface water supply source for the purpose of supplementing recycled water shall be equipped with a DHS-approved backflow prevention device.

10. Direct or windblown spray of reclaimed water shall be confined to the designated land application area and shall be prevented from entering outdoor eating areas, dwellings, drinking water facilities, food handling facilities, and other locations where the public may be present. In addition, direct or windblown spray of reclaimed water shall not enter surface watercourses.

11. Application of wastewater to land shall not be performed within 24 hours before a forecasted storm, during precipitation, or within 24 hours after any precipitation event, nor when the ground is saturated.

12. Spray irrigation with reclaimed water is prohibited when wind velocities exceed 30 mph.

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

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

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

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

14. A 15-foot buffer zone shall be maintained between any watercourse and the wetted area produced during land application of effluent.

15. A 50-foot buffer zone shall be maintained between any spring, domestic well or irrigation well and the wetted area produced during land application of effluent.

F. Sludge Disposal:

1. Collected screenings, sludges, 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.

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

3. Use and disposal of sewage sludge 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 Resources Control Board and the Regional Water Quality Control Boards 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.

4. 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.

5. By **1 October 2005**, the Discharger shall submit a sludge disposal plan describing the annual volume of sludge generated by the plant and specifying the disposal practices.

G. Receiving Water Limitations:

Receiving Water Limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit.

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

1. Concentrations of dissolved oxygen to fall below 7.0 mg/l. The monthly median of the mean daily dissolved oxygen concentration shall not fall below 85 percent of saturation in the main water mass, and the 95th percentile concentration shall not fall below 75 percent of saturation.

2. Oils, greases, waxes, or other materials to form a visible film or coating on the water surface or on the stream bottom.

3. Oils, greases, waxes, floating material (liquids, solids, foams, and scums) or suspended material to create a nuisance or adversely affect beneficial uses.

4. Esthetically undesirable discoloration.

5. Fungi, slimes, or other objectionable growths.

6. The turbidity to increase as follows:

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

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

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

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

7. The ambient pH to fall below 6.5, exceed 8.5, or the 30-day average pH to change by more than 0.5 units.

8. The ambient temperature to increase more than 5°F.

9. Deposition of material that causes nuisance or adversely affects beneficial uses.

10. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or 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.

11. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.

12. Toxic substances to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.

13. Violation of any applicable water quality standard for receiving waters adopted by the U.S. Environmental Protection Agency, the Regional Board or the State Water Resources Control Board pursuant to the CWA and regulations adopted thereunder.

14. 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 to cause nuisance or adversely affect beneficial uses.

15. The fecal coliform concentration in any 30-day period to exceed a geometric mean of 200 MPN/100 ml or cause more than 10 percent of total samples to exceed 400 MPN/100 ml.

16. Upon adoption of any applicable water quality standard for receiving waters by the U.S. Environmental Protection Agency, the Regional Board or the State Water Resources Control Board pursuant to the CWA and regulations adopted thereunder, this permit may be reopened and receiving water limitations added.

H. Groundwater Limitations:

1. The discharge from the WWTP shall not cause the underlying groundwater to be degraded.

I. Provisions:

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

2. 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.

3. There are indications that the discharge may contain constituents that have a reasonable potential to cause or contribute to an exceedance of water quality objectives: NTR, CTR, and additional constituents that are specifically listed in a letter issued by the Executive Officer on 10 September 2001 in conformance with California Water Code, Section 13267 (also known as "13267 letter"). The Discharger shall comply with the following time schedule in conducting a study of these constituents potential effect in surface waters:

Task	Compliance Date
Submit Workplan and Time Schedule	**1 August 2005**
Begin Study	**1 November 2005**
Complete Study	**1 November 2006**
Submit Study Report	**1 February 2007**

The Discharger shall submit to the Regional 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 Board by letter when it returns to compliance with the time schedule.

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

4. The Discharger shall conduct the chronic toxicity testing specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity, the Discharger initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and, after Regional Board evaluation, conduct the TRE. This Order will be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. Additionally, if a chronic toxicity water quality objective is adopted by the State Water Resources Control Board, this Order may be reopened and a limitation based on that objective included.

5. **Copper, Bromoform, Dibromochloromethane, and Dichlorobromomethane Compliance Schedule:** This Order contains Effluent Limitations based on water quality criteria contained in the CTR for copper, bromoform, dibromochloromethane, and dichlorobromomethane. By **1 June 2005** the Discharger shall complete and submit a compliance schedule justification for copper, bromoform, dibromochloromethane, and dichlorobromomethane. The compliance schedule justification shall include all items specified by the SIP Section 2.1, Paragraph 3 (items (a) through (d)). Implementation of the new water quality based effluent limitations for copper, bromoform, dibromochloromethane, and dichlorobromomethane become effective on **1 June 2005** if a compliance schedule justification meeting the requirements of Section 2.1 of the SIP is not completed and submitted by the Discharger. Otherwise the new final water

quality based effluent limitations for copper, bromoform, dibromochloromethane, and dichlorobromomethane required by this Order shall become effective on **11 March 2008.** As this schedule is greater than one year, the Discharger shall submit semi-annual progress reports on **15 September** and **15 March** each year until the Discharger achieves compliance with the final water quality based effluent limitations for copper, bromoform, dibromochloromethane, and dichlorobromomethane.

6. The interim limitations in this Order are based on the current treatment plant performance and have been established at the maximum observed concentration. Interim limitations have been established since compliance with NTR- and CTR-based Effluent Limitations cannot be achieved by the existing discharge. The interim Effluent Limitations, C.3, establish enforceable mass and concentration ceilings until compliance with the final Effluent Limitations, C.2, can be achieved, which is required by **11 March 2008**.

7. The Discharger shall conduct a study of the thermal impacts of the discharge on the beneficial uses of the unnamed tributary to Orchard Creek. The Discharger shall submit a workplan for the study **within six months of the adoption date of this Order**. It is recommended that the workplan be reviewed by the California Department of Fish and Game and the National Marine Fisheries Service prior to submittal. The study shall assess compliance with this Order. The results of the study shall be submitted by **1 February 2006**.

   The Discharger shall submit to the Regional 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 Board by letter when it returns to compliance with the time schedule.

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

8. The Discharger shall use the best practicable treatment or control technique currently available to limit mineralization to no more than a reasonable increment.

9. The Discharger shall report to the Regional 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.

10. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)", dated February 2004, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."

11. The Discharger shall comply with Monitoring and Reporting Program No. R5-2005-0032, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

    When requested by USEPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self Monitoring Reports.

12. This Order expires on **1 March 2010** and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than 180 days in advance of such date in application for renewal of waste discharge requirements if it wishes to continue the discharge.

13. 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 Board approves alternate temperature limits;

f. Petroleum oil, nonbiodegradable 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.

14. 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.

15. Sanitary Sewer System Operation, Maintenance and Overflow Prevention. The Discharger shall maintain all portions of the wastewater collection system to assure compliance with this Order. Collection system overflows and/or discharges are prohibited by this Order.

All violations of this Order must be reported as specified in Standard Provisions and the public shall be notified, in coordination with the Health Department, in areas that have been contaminated with sewage. All parties with a reasonable potential for exposure to a sewage overflow event shall be notified.

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

17. 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 this office.

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 Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 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.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 17 March 2005.

_____
THOMAS R. PINKOS, Executive Officer

TTP/ttp

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2005-0032

NPDES NO. CA0084697

FOR

UNITED AUBURN INDIAN COMMUNITY
AUBURN RANCHERIA CASINO
WASTEWATER TREATMENT PLANT
PLACER COUNTY

This Monitoring and Reporting Program is issued pursuant to California Water Code Sections 13383 and 13267. The Discharger shall not implement any changes to this Monitoring and Reporting Program unless and until the Regional Board or Executive Officer issues a revised Monitoring and Reporting Program. Specific sample station locations shall be established under direction of the Regional Board's staff, and a description of the stations shall be attached to this Order.

Section 13267 of the California Water Code states, in part, "*(a) A regional board, in establishing…waste discharge requirements…may investigate the quality of any waters of the state within its region"* and *"(b)(1) In conducting an investigation…, the regional board may require that nay person who… discharges… waste… that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires."* The Discharger operates the facility that discharges waste subject to Order No. R5-2005-0032.

INFLUENT MONITORING

Samples shall be collected at approximately the same time as effluent samples and should be representative of the influent for the period sampled. Influent monitoring shall include at least the following:

Constituents	Units	Type of Sample	Sampling Frequency
20°C BOD_5	mg/l, lbs/day	24-hr. Composite[1]	Daily
Total Suspended Solids	mg/l, lbs/day	24-hr. Composite[1]	Daily
Flow	mgd	Meter	Continuous

[1] The BOD and TSS samples shall be flow proportional composite samples.

EFFLUENT MONITORING

Effluent samples shall be collected downstream from the last connection through which wastes can be admitted into the outfall. Effluent samples should be representative of the volume and quality of the discharge. Samples collected from the outlet structure of ponds will be considered adequately composited. Time of collection of samples shall be recorded. Effluent monitoring shall include at least the following:

Constituents	Units	Type of Sample	Sampling Frequency
20°C BOD_5	mg/l, lbs/day	24-hr. Composite[1]	Daily
Total Suspended Solids (TSS)	mg/l, lbs/day	24-hr. Composite[1]	Daily
Settleable Solids	ml/l	24-hr. Composite[1]	3 times weekly
Total Dissolved Solids (TDS)	mg/l, lbs/day	24-hr. Composite[1]	Weekly
Electrical Conductivity @25°C	µmhos/cm	Grab	3 times weekly
pH	Number	Meter	Daily
Acute Toxicity[2,3]	% Survival	Grab	Quarterly
Total Coliform Organisms	MPN/l00 ml	Grab	Daily
Total Chlorine Residual	mg/l, lbs/day	Meter	Continuous
Flow	mgd	Meter	Continuous
Temperature	°F	Grab	Daily
Ammonia[4,5,6]	mg/l, lbs/day	Grab	Daily
Turbidity	NTU	Meter	Continuous
Copper	µg/l, lbs/day	24-hr. Composite	Monthly
Bromoform	µg/l, lbs/day	Grab	Monthly
Dibromochloromethane	µg/l, lbs/day	Grab	Monthly
Dichlorobromomethane	µg/l, lbs/day	Grab	Monthly
Atrazine	µg/l, lbs/day	Grab	Monthly
Boron	µg/l, lbs/day	Grab	Monthly
Fluoride	µg/l, lbs/day	Grab	Monthly
Arsenic	µg/l, lbs/day	24-hr. Composite	Monthly
Aluminum[7]	µg/l, lbs/day	24-hr. Composite	Monthly
Methylene Blue Active Substances (MBAS)	µg/l, lbs/day	Grab	Monthly

Constituents	Units	Type of Sample	Sampling Frequency
Nitrate (as N)	µg/l, lbs/day	Grab	Monthly
Total Trihalomethanes[8]	µg/l, lbs/day	Grab	Monthly
Sulfate	mg/l, lbs/day	Grab	Monthly
Persistent Chlorinated Hydrocarbon Pesticides	µg/l, lbs/day	Grab	Monthly
Priority Pollutants[9,10]	mg/l, lbs/day	Grab	Twice per year
Hardness	mg/l as $CaCO_3$	Grab	Quarterly

1 The BOD and TSS samples shall be flow proportional composite samples.

2 The acute bioassays samples shall be analyzed using EPA/600/4-90/027F, Fourth Edition, or later amendment with Regional Board staff approval. Temperature and pH shall be recorded at the time of bioassay sample collection. Test species shall be fathead minnows (Pimephales promelas), with no pH adjustment unless approved by the Executive Officer.

3 Concurrent with ammonia sampling.

4 Concurrent with biotoxicity monitoring.

5 Report as both total and un-ionized ammonia.

6 Temperature and pH shall be recorded at the time of ammonia sample collection.

7 Compliance 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 U.S. EPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate as approved by the Executive Officer.

8 Total trihalomethanes is the sum of bromoform, bromodichloromethane, chloroform, and dibromochloromethane.

9 Priority Pollutants is defined as U.S.EPA priority toxic pollutants and consists of the constituents listed in the Attachment II of the "13267 letter", which was issued by the Executive Officer on 10 September 2001, in conformance with California Water Code, Section 13267.

10 Temperature, pH, and hardness data shall be collected at the same time and on the same date as the Priority Pollutant samples.

If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all of the constituents listed above, after which the frequencies of analysis given in the schedule shall apply for the duration of each such 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.

RECEIVING WATER MONITORING

All receiving water samples shall be grab samples. Receiving water monitoring shall include at least the following:

Station	Description
R-l	50 feet upstream from the point of discharge
R-2	200 feet downstream from the point of discharge

Constituents	Units	Station	Sampling Frequency
Dissolved Oxygen	mg/l	R-l, R-2	Weekly
pH	Number	R-l, R-2	Weekly
Turbidity	NTU	R-l, R-2	Weekly
Temperature	°F (°C)	R-l, R-2	Weekly
Electrical Conductivity @25°C	µmhos/cm	R-1, R-2	Weekly
Fecal Coliform Organisms	MPN/100 ml	R-1, R-2	Weekly
Ammonia[1]	mg/l	R-1, R-2	Quarterly

[1] Temperature and pH shall be determined at the time of sample collection for the calculation of unionized ammonia.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-l and R-2. Attention shall be given to the presence or absence of:

a. Floating or suspended matter
b. Discoloration
c. Bottom deposits
d. Aquatic life
e. Visible films, sheens or coatings
f. Fungi, slimes, or objectionable growths
g. Potential nuisance conditions

Notes on receiving water conditions shall be summarized in the monitoring report.

THREE SPECIES CHRONIC TOXICITY MONITORING

Chronic toxicity monitoring shall be conducted to determine whether the effluent is contributing toxicity to the receiving water. The testing shall be conducted as specified in EPA 821/R-02-013. Chronic toxicity samples shall be collected at the discharge of the wastewater treatment plant prior to its entering the unnamed tributary to Orchard Creek. Twenty-four hour composite samples shall be representative of the volume and quality of the discharge. Time of collection samples shall be recorded. Standard dilution water can be used if the receiving water source exhibits toxicity and is approved by the Executive Officer. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay and reported with the test results. Both the reference

toxicant and effluent test must meet all test acceptability criteria as specified in the chronic manual. If the test acceptability criteria are not achieved, then the Discharger must re-sample and re-test within 14 days. Chronic toxicity monitoring shall include the following:

Species:	*Fathead minnows (Pimephales promelas), Ceriodaphnia dubia, and Selenastrum capricornutum*
Frequency:	*One per quarter, four quarter per year*
Dilution Series:	*None- the test shall be conducted using 100% effluent*

SLUDGE MONITORING

A composite sample of sludge shall be collected annually in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for the following metals:

Cadmium	Copper	Nickel	Molybdenum
Chromium	Lead	Zinc	Mercury
Selenium	Silver		

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.

1. **Within 90 days of the effective date of this Order**, and **annually by 30 January** thereafter, the Discharger shall submit:

   a. Annual sludge production in dry tons and percent solids.

   b. A schematic diagram showing sludge handling facilities and a solids flow diagram.

   c. Depth of application and drying time for sludge drying beds.

   d. A description of disposal methods, including the following information related to the disposal methods used at the facility. If more than one method is used, include the percentage of annual sludge production disposed by each method.

Within 90 days of the effective date of this Order, the Discharger shall submit characterization of sludge quality, including sludge percent solids and quantitative results of chemical analysis for the priority pollutants listed in 40 CFR 122 Appendix D, Tables II and III (excluding total phenols). All sludge samples shall be a composite of a minimum of twelve (12) discrete samples taken at equal time intervals over 24 hours. Suggested methods for analysis of sludge are provided in EPA publications titled "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods" and "Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater". Recommended analytical holding times for sludge samples should reflect those specified in 40 CFR 136.6.3(e). Other

guidance is available in EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989.

WATER SUPPLY MONITORING

A sampling station shall be established where a representative sample of the municipal water supply can be obtained. Water supply monitoring shall include at least the following:

Constituents	Units	Sampling Frequency
Electrical Conductivity[1] @ 25°C	µmhos/cm	Annually
Total Dissolved Solids	mg/l	Annually

[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.

REPORTING

Monitoring results shall be submitted to the Regional 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 and year**, respectively.

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., influent, effluent, etc.), the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements. The highest daily maximum for the month, monthly and weekly averages, and medians, and removal efficiencies (%) for BOD and Suspended Solids, should be determined and recorded.

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.

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 WWTP (Standard Provision A.5).

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 and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration (Standard Provision C.6).

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.

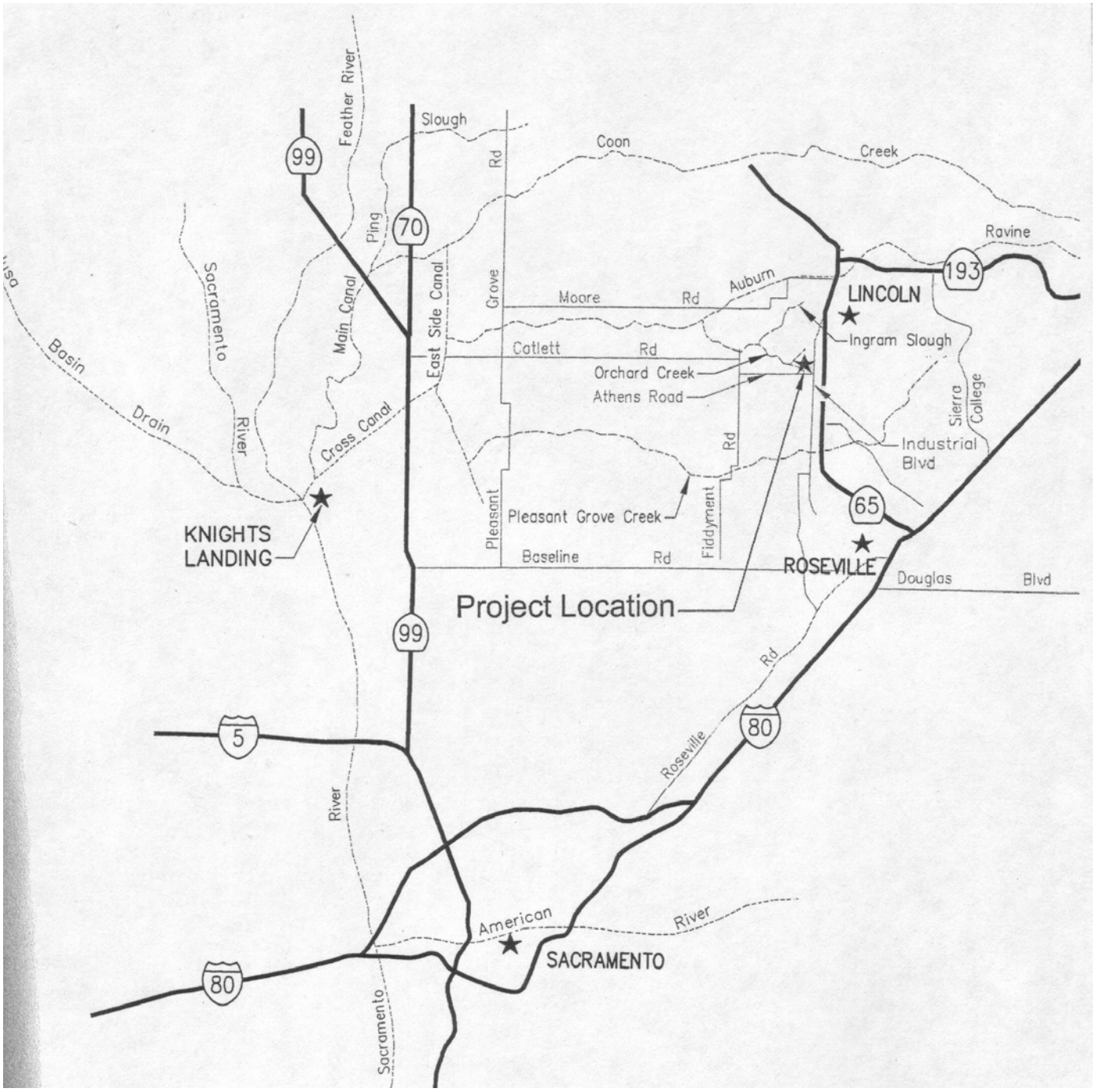
The Discharger may also be requested to submit an annual report to the Regional Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements. All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provision D.6.

The Discharger shall implement the above monitoring program on the first day of the month following effective date of this Order.

Ordered by: THOMAS R. PINKOS, Executive Officer

17 March 2005
(Date)

TTP/ttp



SITE LOCATION MAP

UNITED AUBURN INDIAN COMMUNITY
AUBURN RANCHERIA CASINO
WASTEWATER TREATMENT PLANT
PLACER COUNTY

N
W
E
S

NOT TO SCALE

INFORMATION SHEET

ORDER NO. R5-2005-0032
NPDES NO. CA0084697
UNITED AUBURN INDIAN COMMUNITY
AUBURN RANCHERIA CASINO
WASTEWATER TREATMENT PLANT
PLACER COUNTY

BACKGROUND INFORMATION

The United Auburn Indian Community owns and operates a wastewater collection, treatment, and disposal system, and provides sewerage service to the Auburn Rancheria Casino, a gaming and entertainment facility. The Auburn Rancheria Casino WWTP began operation in June 2003. Treated municipal wastewater is discharged to an unnamed tributary to Orchard Creek, Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River. Treated wastewater is also used to irrigate on-site landscaping for exterior decorative fountains and toilet flushing within the gaming facility.

The tertiary treatment system consists of an influent pump station, headworks (flow measurement and fine screening), immersed membrane bioreactor (IMB), and ultraviolet light disinfection. The IMB combines an anoxic zone, aeration, clarification, and membrane filtration into a single tank. The filtration stage is a microfiltration process, in which wastewater is pulled by vacuum through membranes. The filter membrane nominal pore size is 0.1 microns. Sludge is dewatered in sludge stabilization basins and disposed off-site.

WASTEWATER TREATMENT PLANT UPGRADE

According to information provided by the Discharger in the *February 2004 Engineering Report Addendum*, the wastewater treatment system design was modified prior to construction to expand the following: influent pump capacity, headworks screening capacity, aeration/membrane basins, anoxic basins, recirculation pumps, sludge wasting pumps, air blowers, permeate and back pulse pumps, back pulse tanks, sodium hypochlorite storage and feed system, ultraviolet disinfection facility, and sludge stabilization basins. The current maximum daily treatment capacity of the WWTP is reported as
0.35 million gallons per day (mgd).

BENEFICIAL USES OF THE RECEIVING WATER

The Basin Plan at page II-2.00 states: "Existing and potential beneficial uses which currently apply to surface waters of the basins are presented in Figure II-1 and Table II-1. 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 an unnamed tributary to Orchard Creek, but the

Basin Plan does identify present and potential uses for the Sacramento River to which an unnamed tributary to Orchard Creek, Orchard Creek, Auburn Ravine, the East Side Canal, and the Cross Canal are tributary.

The Basin Plan identifies the following beneficial uses for the Sacramento River: municipal and domestic supply, agricultural irrigation, water contact recreation, canoeing and rafting, non-contact water recreation, warm and cold freshwater aquatic habitat, warm and cold fish migration habitat, warm and cold spawning habitat, wildlife habitat, and navigation. In addition, State Board Resolution No 88-63, incorporated into the Basin Plan pursuant to Regional Board Resolution 89-056, requires the Regional Board to assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in Table II-1.

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."

In reviewing whether the existing and/or potential uses of the Sacramento River, apply to an unnamed tributary to Orchard Creek**,** the Regional Board has considered the following facts:

a. *Municipal and Domestic Supply and Agricultural Irrigation*

The Regional Board is required to apply the beneficial uses of municipal and domestic supply to an unnamed tributary to Orchard Creek based on State Board Resolution No. 88-63 which was incorporated in the Basin Plan pursuant to Regional Board Resolution 89-056. In addition, the State Water Resources Control Board (SWRCB) has issued water rights for irrigation uses (including stockwatering) to existing water users along downstream waters. Riparian Rights, for landowners along streams and rivers, may not be recorded with the SWRCB, which may use the water for domestic and irrigation purposes. Since an unnamed tributary to Orchard Creek is an ephemeral stream, an unnamed tributary to Orchard Creek likely provides groundwater recharge during periods of low flow. The groundwater is a source of drinking water and is also designated as agricultural supply. In addition to the existing water uses, growth in the area, downstream of the discharge is expected to continue, which presents a potential for increased domestic and agricultural uses of the water in an unnamed tributary to Orchard Creek, Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River.

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

The WWTP discharges to an unnamed tributary to Orchard Creek, which is tributary to Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River. The Regional Board finds that there is ready public access to an unnamed tributary to Orchard Creek, Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River. Exclusion or restriction of public use is unrealistic.

c. *Groundwater Recharge*

In areas where groundwater elevations are below the stream bottom, water from the stream will percolate to groundwater. Since an unnamed tributary to Orchard Creek is at times dry, it is reasonable to assume that the stream water is lost by evaporation, flow downstream and percolation to groundwater providing a source of municipal and irrigation water supply.

d. *Freshwater Replenishment*

When water is present in an unnamed tributary to Orchard Creek, there is hydraulic continuity between an unnamed tributary to Orchard Creek, Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River. During periods of hydraulic continuity, the unnamed tributary to Orchard Creek adds to the water quantity and may impact the quality of water flowing down stream in the Sacramento River.

e. *Warm and Cold Freshwater Habitats (including preservation and enhancement of fish and invertebrates), Warm and Cold Spawning Habitats, and Wildlife Habitat*

The unnamed tributary to Orchard Creek is tributary to Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River. The California Department of Fish and Game (DFG) has verified the presence of both salmon and steelhead (anadromous species) in Auburn Ravine, downstream of the discharge from the Auburn Rancheria Casino. The Basin Plan (Table II-1) designates the Sacramento River as being both a cold and warm freshwater habitat. The cold-water habitat designation necessitates that the in-stream dissolved oxygen concentration be maintained at, or above, 7.0 mg/l. Pursuant to the Basin Plan Tributary Rule, the cold and warm water habitat designation is applied to an unnamed tributary to Orchard Creek.

Upon review of the flow conditions, habitat values, and beneficial uses of an unnamed tributary to Orchard Creek, and the facts described above, the Regional Board finds that the beneficial uses identified in the Basin Plan for the Sacramento River are applicable to an unnamed tributary to Orchard Creek.

The Regional Board also finds that based on the available information and on the Discharger's application, that an unnamed tributary to Orchard Creek, absent the discharge, is an ephemeral stream. The ephemeral nature of an unnamed tributary to Orchard Creek means that the designated beneficial uses must be protected, but that no credit for receiving water dilution is available. Although the discharge, at times, maintains the aquatic habitat, constituents may not be discharged in concentrations that may cause harm to aquatic life. At other times, natural flows within an unnamed tributary to Orchard Creek help support the aquatic life. Both conditions may exist within a short time span, where an unnamed tributary to Orchard Creek would be dry without the discharge and periods when sufficient background flows

provide hydraulic continuity with the Sacramento River. Dry conditions occur primarily in the summer months, but dry conditions may also occur throughout the year, particularly in low rainfall years. The lack of dilution results in more stringent effluent limitations to protect contact recreational uses, drinking water related uses, agricultural uses and aquatic life. Significant dilution may occur during and immediately following high rainfall events.

NO AVAILABLE DILUTION FOR THE RECEIVING WATER

The Regional Board finds that based on the available information, that an unnamed tributary to Orchard Creek, absent the discharge, is an ephemeral stream. The ephemeral nature of an unnamed tributary to Orchard Creek means that the designated beneficial uses must be protected, but that no credit for receiving water dilution is available. Although the discharge, at times, maintains the aquatic habitat, constituents may not be discharged that may cause harm to aquatic life. At other times, natural flows within an unnamed tributary to Orchard Creek help support the aquatic life. Both conditions may exist within a short time span, where an unnamed tributary to Orchard Creek would be dry without the discharge and periods when sufficient background flows provide hydraulic continuity with Orchard Creek, Auburn Ravine, the East Side Canal, the Cross Canal, and the Sacramento River. Dry conditions occur primarily in the summer months, but dry conditions may also occur throughout the year, particularly in low rainfall years. The lack of dilution results in more stringent effluent limitations to protect contact recreational uses, drinking water standards, agricultural water quality goals and aquatic life. Significant dilution may occur during and immediately following high rainfall events.

REASONABLE POTENTIAL ANALYSIS FOR EFFLUENT LIMITATIONS– CTR CONSTITUENTS

The Code of Federal Regulations, 40 CFR 122.44 (d)(1)(iii), states: "…a discharge causes, has a reasonable potential to cause, or contribute to an in-stream excursion above allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant."

All mass-based Effluent Limitations are calculated using the following equation:

$$X \frac{mg}{l} \times 8.345 \times Flow(mgd) = Y \frac{lbs}{day} \qquad (*)$$

where

X = Concentration-based Effluent Limitation
Y = Mass-based Effluent Limitation

All maximum detected effluent sampling results and controlling water quality criteria for CTR constituents are summarized in the table below:

Constituents	Maximum Detected Concentration (µg/l)	Controlling Water Quality Criteria	Reasonable Potential?
Antimony	3.4	U.S. EPA CTR Human Health Criteria	No
Chromium III	0.32	U.S. EPA NTR Freshwater Aquatic Life Criteria	No
Copper	23	U.S. EPA CTR Freshwater Aquatic Life Criteria	Yes
Mercury	0.0133	U.S. EPA CTR Human Health Criteria	No
Nickel	12	U.S. EPA CTR Freshwater Aquatic Life Criteria	No
Selenium	1.3	U.S. EPA CTR Freshwater Aquatic Life Criteria	No
Silver	0.34	U.S. EPA CTR Freshwater Aquatic Life Criteria	No
Zinc	60	U.S. EPA CTR Freshwater Aquatic Life Criteria	No
Dioxins	$4.5*10^{(-9)}$	U.S. EPA CTR Human Health Criteria	No
Bromoform	6.7	U.S. EPA CTR Human Health Criteria	Yes
Dibromochloromethane	28	U.S.EPA CTR Human Health Criteria	Yes
Dichlorobromomethane	26	U.S.EPA CTR Human Health Criteria	Yes

Antimony

Analytical laboratory results submitted by the Discharger indicate that antimony was detected above the Method Detection Limit (MDL) and below the Reporting Limit (RL) (reported as "J Flag") in one of two effluent samples. The maximum detected concentration of antimony was estimated at 3.4 µg/l. The MDL and the RL were reported at 0.41 µg/l and 5 µg/l, respectively.

U.S. EPA human health CTR criteria for antimony are 14 µg/l (for waters from which both water and aquatic organisms are consumed) and 4,300 µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average.

Because the maximum detected concentration of antimony was reported as "J Flag" and that the RL does not exceed CTR criteria, it indicates that the discharge from the WWTP does not have a reasonable potential to cause an exceedance of a water quality standard for antimony. Therefore, no Effluent Limitation for antimony is included in this Order.

Chromium (III)

Chromium is a naturally occurring element found in rocks, animals, plants, soil, and in volcanic dust and gases. Total chromium measures the combined levels of trivalent chromium (chromium III) and hexavalent chromium (chromium VI). Chromium (III) occurs naturally in the environment and is an essential nutrient. Chromium (VI) is generally produced by industrial processes, such as chrome plating, dyes and pigments, leather tanning, and wood preserving. There is evidence to suggest that chromium (VI) may be converted to chromium (III) in the human body; particularly in the acidic

environment of the digestive system. In addition, chromium (III) is the most stable form. Therefore, total chromium in the effluent is likely to be in the chromium (III) form. Based on these considerations, water quality standards for chromium (III) are used to evaluate whether detected concentrations of chromium (III) in the discharge from the Auburn Rancheria Casino WWTP cause or contribute to an exceedance of a water quality standard.

The Report of Waste Discharge submitted by the Discharger included monitoring results for chromium (total) and chromium (VI). Detected concentrations of chromium (III) are calculated by taking the difference of chromium (VI) concentration from the chromium (total) concentration. Detected concentration of chromium (III) is presented in the following table:

Sampling Dates	Unit	Chromium (total)	Chromium (VI)	Chromium (III)
8/21/03	µg/l	0.87	0.55	0.32

U.S. EPA developed hardness-dependent freshwater aquatic life NTR criteria for chromium. U.S. EPA recommended conversion factors to translate dissolved concentrations to total concentrations. Conversion factors for chromium (III) in freshwater are 0.316 and 0.860 for acute and chronic criteria, respectively. Continuous concentration (four-day average) and maximum concentration (one-hour average) criteria for chromium are presented in total concentrations. These criteria are determined using the following equations:

$$CCC = e\{0.819[\ln(hardness)] + 1.561\} \qquad CMC = e\{0.819[\ln(hardness)] + 3.688\}$$

where

CCC = criteria continuous concentration (four-day average)
CMC = criteria maximum concentration (one-hour average)

The lowest reported hardness of 67 mg/l collected from the receiving water is used to determine the criteria continuous concentration (four-day average) and the criteria maximum concentration (one-hour average). Using above equations, the hardness-dependent criteria continuous concentration (four-day average) and the criteria maximum concentration (one-hour average) for chromium III are calculated at 149 µg/l and 1,251 µg/l, respectively.

The maximum detected concentration of chromium (III) does not exceed freshwater aquatic life NTR criteria for chromium (III). Therefore, no effluent limitation for chromium (III) is included in this Order.

Copper

Analytical laboratory results submitted by the Discharger indicate that copper was detected in both effluent samples. The maximum detected effluent concentration of copper was reported at 23 µg/l. The CTR freshwater aquatic life hardness-dependent criteria for copper are presented in dissolved concentrations. U.S. EPA recommended conversion factors to translate dissolved concentrations to total concentrations. The conversion factor for copper in fresh water is 0.960 for both acute and chronic criteria. The continuous concentration (four-day average) and the maximum concentration (one-hour average) criteria for copper are presented in total concentrations. The criteria continuous concentration (four-day average) and the criteria maximum concentration (one-hour average) are calculated using the following equations:

$$CCC = e^{\{0.8545[\ln(hardness)]-1.702\}}$$
$$CMC = e^{\{0.9422[\ln(hardness)]-1.700\}}$$

where

CCC = criteria continuous concentration (four-day average)
CMC = criteria maximum concentration (one-hour average)

The lowest reported hardness of 67 mg/l collected from the receiving water is used to determine the criteria continuous concentration (four-day average) and the criteria maximum concentration (one-hour average). Using above equations, the hardness-dependent criteria continuous concentration (four-day average) and the criteria maximum concentration (one-hour average) for copper are calculated at 6.6 µg/l and 9.6 µg/l, respectively, as total concentrations.

U.S. EPA human health CTR criterion is 1,300 µg/l (for waters from which both water and aquatic organisms are consumed) as a 30-day average. The maximum detected concentration of copper exceeds freshwater aquatic life CTR criteria. Therefore, the discharge from the Auburn Rancheria Casino WWTP does have a reasonable potential to cause or contribute to an exceedance of freshwater aquatic life CTR criteria for copper.

The State Board adopted the SIP on 2 March 2000 and amended it on 26 April 2000. The SIP includes methodology for establishing effluent limitations for priority toxic pollutants included in the NTR and CTR. The SIP includes following equations for calculating the maximum daily and average monthly effluent limitations where applicable water quality criteria are for the protection of freshwater aquatic life:

LTA_{acute} = ECA_{acute} * ECA $multiplier_{acute99}$
$LTA_{chronic}$ = $ECA_{chronic}$ * ECA $multiplier_{chronic99}$
$AMEL_{aquatic\ life}$ = $LTA_{min}(LTA_{acute}, LTA_{chronic})$* AMEL $multiplier_{95}$
$MDEL_{aquatic\ life}$ = $LTA_{min}(LTA_{acute}, LTA_{chronic})$* MDEL $multiplier_{99}$
where

ECA_{acute} = Effluent Concentration Allowance for Acute Condition
$ECA_{chronic}$ = Effluent Concentration Allowance for Chronic Condition
ECA $multiplier_{acute99}$ = Multiplying Factor Adjusted for Effluent Variability (for Acute Condition) =0.32
ECA $multiplier_{chronic99}$ = Multiplying Factor Adjusted for Effluent Variability (for Chronic Condition) = 0.53
LTA_{acute}, $LTA_{chronic}$ = Long-term Average Discharge Condition for Acute and Chronic Conditions

$AMEL_{aquatic\ life}$ = Average Monthly Effluent Limitation
$MDEL_{aquatic\ life}$ = Maximum Daily Effluent Limitation

Using the equation above, the maximum daily and the monthly average concentration-based Effluent Limitations for copper are calculated at 3.1 µg/l and 1.6 µg/l, respectively. In addition, this Order contains an average monthly and maximum daily mass-based Effluent Limitations for copper, calculated using the equation (*). A time schedule has been included in this Order for compliance with the copper limitation.

Mercury

Analytical laboratory results submitted by the Discharger indicate that mercury was detected at a maximum effluent concentration of 0.013 µg/l. Human health CTR criteria for mercury are 0.05 µg/l (for waters from which both water and aquatic organisms are consumed) and 0.051 µg/ (for waters from which only aquatic organisms are consumed) as a 30-day average. In 40 CFR Part 131, U.S. EPA acknowledges that human health criteria may not be protective of some aquatic or endangered species. Both values are controversial and subject to change. In the CTR, U.S. EPA reserved the mercury criteria for fresh water and aquatic life and may adopt new criteria at a later date. The maximum detected concentration of mercury does not exceed CTR criteria. Therefore, no Effluent Limitation for mercury is included in this Order.

Nickel

Analytical laboratory results submitted by the Discharger indicate that nickel was detected in both effluent samples. The maximum detected effluent concentration of nickel was reported at 12 µg/l.

U.S. EPA developed hardness-dependent freshwater aquatic life CTR criteria. U.S. EPA recommended conversion factors to translate dissolved concentrations to total concentrations. The conversion factors for nickel in freshwater are 0.998 and 0.997 for acute and chronic criteria, respectively. The continuous concentration (four-day average) and the maximum concentration (one-hour average) criteria for nickel are presented in total concentrations. These criteria are determined using the following equations:

$$CCC = e^{\{0.846[\ln(hardness)]+0.0584\}} \qquad CMC = e^{\{0.846[\ln(hardness)]+2.255\}}$$

where

CCC = criteria continuous concentration (four-day average)
CMC = criteria maximum concentration (one-hour average)

The lowest reported hardness of 67 mg/l collected from the receiving water is used to determine the criteria continuous concentration (four-day average) and the criteria maximum concentration (one-hour average). Using above equations, the hardness-dependent criteria continuous concentration (four-day average) and the criteria maximum concentration (one-hour average) for nickel are calculated at 37 µg/l and 334 µg/l, respectively.

U.S. EPA human health CTR criteria for nickel are 610 µg/l (for waters from which both water and aquatic organisms are consumed) and 4,600 µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average.

Detected concentrations of nickel do not exceed CTR criteria. Therefore, no effluent limitation for nickel is included in this Order.

Selenium

Analytical laboratory results submitted by the Discharger indicate that selenium was detected above the MDL and below the RL (reported as "J Flag") in both effluent samples. The maximum detected concentration of selenium was estimated at 1.3 µg/l. The MDL and the RL were reported at 1.1 µg/l and 5 µg/l, respectively.

U.S. EPA freshwater aquatic life CTR criteria continuous concentration (four-day average) and maximum concentration (one-hour average) for selenium are 5 µg/l and 20 µg/l, respectively.

Because the maximum detected concentration of selenium was reported as "J Flag" and that the RL does not exceed CTR criteria, it indicates that the discharge from the WWTP does not have a reasonable potential to cause an exceedance of a water quality standard for selenium. Therefore, no Effluent Limitation for selenium is included in this Order.

Silver

Analytical laboratory results submitted by the Discharger indicate that silver was detected in one of two effluent samples at an estimated concentration (reported as "J Flag") of 0.34 µg/l. The MDL and the RL were reported at 0.26 µg/l and 1.0 µg/l, respectively.

U.S. EPA hardness-dependent freshwater aquatic life CTR instantaneous maximum concentration for silver is presented in the total concentration. This criterion is determined using the following equation:

$$CMC = e^{\{1.72[\ln(hardness)]-6.52\}}$$

where

CMC = criteria maximum concentration (one-hour average)

The lowest reported hardness of 67 mg/l collected from the receiving water is used to determine the instantaneous maximum concentration. Using the above equation, the hardness-dependent instantaneous maximum concentration for silver is calculated at 2.0 µg/l.

Because the maximum detected concentration of silver was reported as "J Flag" and that the RL does not exceed the freshwater aquatic life CTR criterion, it indicates that the discharge from the Auburn Rancheria Casino WWTP does not have a reasonable potential to cause an exceedance of a water quality standard for silver. Therefore, no effluent limitation for silver is included in this Order.

Zinc

Analytical laboratory results submitted by the Discharger indicate that zinc was detected in both effluent samples. The maximum detected concentration of zinc was reported at 60 µg/l. U.S. EPA developed hardness-dependent freshwater aquatic life CTR criteria. U.S. EPA recommended conversion factors to translate dissolved concentrations to total concentrations. The conversion factors for zinc in freshwater are 0.978 and 0.986 for acute and chronic criteria, respectively. The continuous concentration (four-day average) and the maximum concentration (one-hour average) criteria for zinc are presented in total concentrations. These criteria are determined using the following equations:

$$CCC = e^{\{0.8473[\ln(hardness)]+0.884\}} \qquad CMC = e^{\{0.8473[\ln(hardness)]+0.884\}}$$

where

CCC = criteria continuous concentration (four-day average)
CMC = criteria maximum concentration (one-hour average)

The lowest reported hardness of 67 mg/l collected from the receiving water is used to determine the criteria continuous concentration (four-day average) and the criteria maximum concentration (one-hour average). Using the above equations, both hardness-dependent criteria continuous concentration (four-day average) and the criteria maximum concentration (one-hour average) for zinc are calculated at 85 µg/l.

The maximum detected concentration of zinc does not exceed CTR criteria. Therefore, no Effluent Limitation for zinc is included in this Order.

Dioxins

Dioxins are unwanted by-products formed during several industrial processes, including the production of bleached paper. Dioxins are probable human carcinogens and can cause a type of dermatitis in humans. Adverse effects in animals include red blood cell damage, nervous system disorders, suppression of the immune system, liver and thymus abnormalities, birth defects, and reproductive effects. Health concerns from dioxins are based on long term, regular consumption of fish and shellfish contaminated with these persistent compounds.

Analytical laboratory results submitted by the Discharger indicate that dioxins was detected in both effluent concentrations at a maximum concentration of $4.54*10^{-9}$ µg/l. U.S. EPA established human health CTR criteria of $1.3*10^{-8}$ µg/l (for waters from which both water and aquatic organisms are consumed) and $1.4*10^{-8}$ µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average. Because the maximum detected effluent concentration of dioxins does not exceed human health CTR criteria, it indicates that the discharge from the Auburn Rancheria Casino WWTP does not have a reasonable potential to cause an exceedance of a water quality standard for dioxins. Therefore, no effluent limitation for dioxins is included in this Order.

Dibromochloromethane

Dibromochloromethane is one of the chemicals in the trihalomethanes (THM) group that are formed along with other disinfection by products when chlorine or other disinfectants used to control microbial contaminants in wastewater react with naturally occurring organic and inorganic matter in water. The THM group includes bromoform, chloroform, bromodichloromethane, dibromochloromethane. Dibromochloromethane poses the most serious cancer risk in the THM group. THM levels tend to increase with pH, temperature, time, and the level of "precursors" present. Precursors are organic material that reacts with chlorine to form THM.

Analytical laboratory results submitted by the Discharger indicate that dibromochloromethane was detected in both effluent samples. The maximum detected effluent concentration of dibromochloromethane was reported 28 µg/l. U.S. EPA established human health CTR criteria of 0.41 µg/l (for waters from which both water and aquatic organisms are consumed) and 34 µg/l (for waters from which only aquatic organisms are consumed) for dibromochloromethane as a 30-day average. The maximum detected effluent concentration of dibromochloromethane exceeds the human health CTR criterion for waters from which both water and aquatic organisms are consumed. Therefore, this Order contains an average monthly concentration-based Effluent Limitation of 0.41 µg/l for dibromochloromethane based on the human health CTR criterion.

The State Board adopted the SIP on 2 March 2000 and amended it on 26 April 2000. The SIP includes methodology for establishing effluent limitations for priority toxic pollutants included in the NTR and CTR. The SIP includes the following equation for calculating the maximum daily effluent limitation when the applicable criteria are for the protection of human health:

$$MDEL_{hh} = ECA * \left(\frac{MDEL}{AMEL} \right)_{multiplier}$$

where

ECA = Effluent concentration allowance
AMEL = Average monthly effluent limitation
AMEL = ECA (for the protection of human health) = 0.41 µg/l
$MDEL_{hh}$ = Maximum daily effluent limitation (for the protection of human health)
$\left(\frac{MDEL}{AMEL} \right)_{multiplier}$ = 2.0

Using the equation above, the maximum daily concentration-based Effluent Limitation for dibromochloromethane is calculated at 0.82 µg/l. In addition, this Order contains an average monthly and maximum daily mass-based Effluent Limitations for dibromochloromethane, calculated using the equation (*). A time schedule has been included in this Order for compliance with the dibromochloromethane limitation.

Bromoform

Analytical laboratory results submitted by the Discharger indicate that bromoform was detected in one of two effluent samples. The maximum detected effluent concentration of bromoform was reported at 6.7 µg/l. U.S. EPA established human health CTR criteria of 4.3 µg/l (for waters from which both water and aquatic organisms are consumed) and 360 µg/l (for waters from which only aquatic organisms are consumed) for bromoform as a 30-day average. The maximum detected effluent concentration of bromoform exceeds the human health CTR criterion for waters from which both water and aquatic organisms are consumed. Therefore, this Order contains an average monthly concentration-based Effluent Limitation of 4.3 µg/l for bromoform based on the human health CTR criterion.

The State Board adopted the SIP on 2 March 2000 and amended it on 26 April 2000. The SIP includes methodology for establishing effluent limitations for priority toxic pollutants included in the NTR and CTR. The SIP includes the following equation for calculating the maximum daily effluent limitation when the applicable criteria are for the protection of human health:

$$MDEL_{hh} = ECA * \left(\frac{MDEL}{AMEL} \right)_{multiplier}$$

where

ECA = Effluent concentration allowance
AMEL = Average monthly effluent limitation
AMEL = ECA (for the protection of human health) = 4.3 µg/l

$MDEL_{hh}$ = Maximum daily effluent limitation (for the protection of human health)

$\left(\frac{MDEL}{AMEL}\right)_{multiplier} = 2.0$

Using the equation above, the maximum daily concentration-based Effluent Limitation for bromoform is calculated at 8.6 µg/l. In addition, this Order contains an average monthly and maximum daily mass-based Effluent Limitations for bromoform, calculated using the equation (*). A time schedule has been included in this Order for compliance with the bromoform limitation.

Dichlorobromomethane

Dichlorobromomethane is a colorless, nonflammable liquid. The Department of Health and Human Services (DHHS) has determined that dichlorobromomethane is reasonably anticipated to be a human carcinogen.

U.S. EPA human health CTR criteria for dichlorobromomethane are 0.56 µg/l (for waters from which both water and aquatic organisms are consumed) and 46 µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average.

Analytical laboratory results submitted by the Discharger indicate that dichlorobromomethane was detected in both effluent samples. The maximum detected effluent concentration of dichlorobromomethane was reported at 26 µg/l. The maximum detected concentration of dichlorobromomethane exceeds the human health CTR criterion for waters from which both water and aquatic organisms are consumed. Because beneficial uses of the receiving waters include municipal and domestic supply, the discharge from the Auburn Rancheria Casino WWTP has a reasonable potential to cause or contribute to an exceedance of the CTR criteria for dichlorobromomethane. This Order contains an average monthly concentration-based Effluent Limitation of 0.56 µg/l for dichlorobromomethane based on the human health CTR criterion.

The State Board adopted the SIP on 2 March 2000 and amended it on 26 April 2000. The SIP includes methodology for establishing effluent limitations for priority toxic pollutants included in the NTR and CTR. The SIP includes the following equation for calculating the maximum daily effluent limitation (MDEL) when the applicable criteria are for the protection of human health:

$$MDEL_{hh} = ECA * \left(\frac{MDEL}{AMEL}\right)_{multiplier}$$

where

ECA = Effluent concentration allowance
ECA = Average monthly effluent limitation (for the protection of human health)
AMEL = Average monthly effluent limitation = 0.56 µg/l

$MDEL_{hh}$ = Maximum daily effluent limitation (for the protection of human health)

$$\left(\frac{MDEL}{AMEL}\right)_{multiplier} = 2.0$$

Using the above equation, the maximum daily concentration-based Effluent Limitation for dichlorobromomethane is calculated at 1.1 µg/l. In addition, this Order contains monthly average and maximum daily mass-based Effluent Limitations for dichlorobromomethane, calculated using the equation (*). A time schedule has been included in this Order for compliance with the dichlorobromomethane limitation.

Persistent Chlorinated Hydrocarbon Pesticides

The Basin Plan includes a water quality objective for pesticides on page III-6.0, which states: "*No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses*" and that " *Total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer*". For the purposes of this Order the list of persistent chlorinated hydrocarbon pesticides will include but not be limited to the following:

Aldrin
Alpha BHC
Beta BHC
Gamma BHC (Lindane)
Delta BHC
Captan
Chlordane
2,4-D
2,4-DB
2,4-D compounds
DDD (TDE)
DDE
DDT
Dalapon
Dicamba
Dichloran
Dichloroprop
Dicofol
Dieldrin
Dinoseb
Endosulfan I (Alpha)
Endosulfan II (Beta)
Endosulfan Sulfate
Endrin
Endrin Aldehyde
Heptachlor
Heptachlor Epoxide
Isodrin (an isomer of Aldrin)
Kepone (Chlordecone)
MCPA
MCPP
Methoxychlor
Mirex
PCNB
Pentachlorophenol
Perthane
Strobane
2,4,5-T
2,4,5,TP (Silvex)
2,4,5-T compounds
Toxaphene

Analytical laboratory results submitted by the Discharger indicate that endosulfan II and endosulfan sulfate have been detected in the effluent. The maximum detected effluent concentration of endosulfan II was reported at 0.033 µg/l. Endosulfan sulfate was detected at an estimated concentration (reported as "J Flag") of 0.041 µg/l. The MDL and the RL for endosulfan sulfate were reported at 0.0023 µg/l and 0.05 µg/l, respectively.

Human health CTR criteria for both endosulfan II and endosulfan sulfate are 110 µg/l (for waters from which both water and aquatic organisms are consumed) and 240 µg/l (for waters from which only aquatic organisms are consumed) as a 30-day average. Freshwater aquatic life CTR criterion continuous concentration (4-day average) and instantaneous maximum concentration for endosulfan II are 0.056 µg/l and 0.22 µg/l, respectively.

The Basin Plan objective is more restrictive than CTR water quality standards for persistent chlorinated hydrocarbon pesticides. The CTR and the SIP state that CTR standards apply unless the State's approved criteria are more restrictive. The presence of endosulfan II and endosulfan sulfate in the effluent indicates that the discharge from the Auburn Rancheria Casino WWTP has a reasonable potential to cause or contribute to an exceedance of Basin Plan objectives for persistent chlorinated hydrocarbon pesticides. This Order includes an Effluent Limitation for persistent chlorinated hydrocarbon pesticides based on the Basin Plan objective.

REASONABLE POTENTIAL ANALYSIS FOR EFFLUENT LIMITATIONS – NON-CTR CONSTITUENTS

The reasonable potential analysis is included in the U.S. EPA Technical Support Document for Water Quality-Based Toxics Control (TSD). The analysis assists to determine whether the discharge may: (1) cause, (2) have a reasonable to cause, (3) or contribute to an exceedance of any water quality criteria or objectives. Reasonable potential was determined by calculating the projected maximum effluent concentration (MEC) for each constituent and comparing it to applicable water quality criteria or objective. If the projected MEC exceeded a criterion or objective, the discharge was determined to have reasonable potential to cause or contribute to an exceedance of a water quality criterion or objective for that constituent. The projected MEC is determined by multiplying the maximum detected effluent concentration with a reasonable potential multiplying factor that accounts for statistical variation. The multiplying factor (for 99% confidence level and 99% probability basis) is determined using the number of reported effluent sampling results and the coefficient of variation (CV) of effluent sampling results. For less than 10 effluent data, CV is estimated to equal 0.6. In accordance with the SIP, non-detect results were counted as one-half the detection level when calculating the mean. The reasonable potential analysis is based on the methods used in the TSD.

All maximum detected effluent sampling results for non-CTR constituents and controlling water quality criteria for the receiving water for are summarized in the table below:

Constituents	Maximum Detected Concentration (µg/l)	Number of Samples	Controlling Water Quality Criteria (µg/l)
Aluminum	32	2	Basin Plan narrative toxicity objective and U.S.EPA Ambient Water Quality Freshwater Aquatic Life Criteria
Atrazine	0.83	2	Basin Plan chemical constituent objective and Primary MCL
Barium	27	2	Basin Plan chemical constituent objective and Primary MCL
Boron	3,500	2	Agricultural Goal
Chloride	480,000	2	Agricultural Goal
Fluoride	520	2	Agricultural Goal
MBAS	72	2	Basin Plan chemical constituent objective and Secondary MCL
Iron	17	2	Basin Plan chemical constituent objective and Secondary MCL
Molinate	0.5	2	Basin Plan chemical constituent objective and Primary MCL
Nitrate (as N)	16,000	452	Basin Plan narrative objective and Primary MCL
Nitrite (as N)	75	2	Basin Plan chemical constituent objective and Primary MCL
Sulfate	70,000	2	Basin Plan chemical constituent objective and Secondary MCL
Phosphorous	6,300	2	No criteria available
Tributyltin	0.008	2	Basin Plan narrative toxicity objective and U.S. EPA Ambient Water Quality Freshwater Aquatic Life Criteria
Xylenes	0.71	2	Basin Plan chemical constituent objective and Secondary MCL
Arsenic	3	2	Basin Plan chemical constituent objective and Primary MCL
Chloroform	16	2	Basin Plan chemical constituent objective and Primary MCL

Calculated coefficient of variation (CV), reasonable potential multiplying factors, and calculated projected MEC for non-CTR constituents are summarized in the following table:

Constituents	Coefficient of Variation (CV)	Reasonable Potential Multiplying Factor (99% Confidence Level and 99% Probability Basis)	Projected MEC (µg/l)	Reasonable Potential?
Aluminum	0.6	7.4	237	Yes
Atrazine	0.6	7.4	6.1	Yes
Barium	0.6	7.4	200	No
Boron	0.6	7.4	25,900	Yes
Chloride	0.6	7.4	3,552,000	No
Fluoride	0.6	7.4	3,848	Yes
MBAS	0.6	7.4	533	Yes
Iron	0.6	7.4	126	No
Molinate	0.6	7.4	3.7	No
Nitrate (as N)	1.4	1.0	16,000	Yes
Nitrite (as N)	0.6	7.4	0.56	No
Sulfate	0.6	7.4	518,000	Yes
Phosphorous	0.6	7.4	N/A	N/A
Tributyltin	0.6	7.4	0.059	No
Xylenes	0.6	7.4	5.3	No
Arsenic	0.6	7.4	22.2	Yes
Chloroform	0.6	7.4	118	Yes

The Code of Federal Regulations, 40 CFR 122.44 (d)(1)(iii), states: *"…a discharge causes, has a reasonable potential to cause, or contribute to an in-stream excursion above allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.*" The Basin Plan requires, on page III-3.0: *"At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of maximum contaminant levels (MCLs) specified in…Title 22 of the California Code of Regulations, which are incorporated by reference into this plan…"* Municipal and domestic water supply is designated as a beneficial use of the Sacramento River, which is downstream of an unnamed tributary to Orchard Creek. Pursuant to the Basin Plan Tributary Rule, the municipal and domestic water supply beneficial use designation of the Sacramento River is applied to an unnamed tributary to Orchard Creek.

All mass-based Effluent Limitations are calculated using the following equation:

$$X \frac{mg}{l} \times 8.345 \times Flow(mgd) = Y \frac{lbs}{day} \qquad (*)$$

where

X = Concentration-based Effluent Limitation

Y = Mass-based Effluent Limitation

Aluminum

Aluminum occurs naturally and makes up about 8% of the surface of the earth. When aluminum enters the environment, it can dissolve in lakes, streams, and rivers depending on the quality of the water. Studies have shown that infants and adults who received large doses of aluminum developed bone diseases, which suggests that aluminum may cause skeletal problems. Some sensitive people develop skin rashes from using aluminum chlorohydrate deodorants.

Analytical laboratory results submitted by the Discharger indicate that aluminum was detected in both effluent samples. The maximum detected concentration of aluminum was estimated at 32 µg/l (reported as "J Flag"). The MDL and the RL for aluminum were reported at 7.9 µg/l and 50 µg/l, respectively.

U.S. EPA has developed Recommended Ambient Water Quality Criteria for protection of freshwater aquatic life continuous concentration and maximum concentration criteria of 87 µg/l as a four-day average and 750 µg/l as a one-hour average, respectively, for aluminum. Aluminum exists as aluminum silicate in suspended clay particles, which U.S. EPA acknowledges might be less toxic than other forms of aluminum. Correspondence with U.S.EPA indicates that the criterion is not intended to apply to aluminum silicate. Therefore, a monitoring method that excludes aluminum silicate is likely to be more appropriate. The use of acid-soluble analysis for compliance with the aluminum criterion appears to satisfy U.S. EPA.

Using the methodology in the U.S. EPA's Technical Support Document (TSD) for Water Quality-Based Toxics Control, the projected MEC of aluminum is calculated at 237 µg/l. The projected MEC of aluminum exceeds the Recommended Ambient Water Quality Criteria. Therefore, the discharge from the Auburn Rancheria Casino WWTP has a reasonable potential to cause an exceedance of the Basin Plan narrative toxicity objective. This Order includes concentration-based Effluent Limitations for aluminum based on the Basin Plan narrative toxicity objective utilizing the EPA Recommended Ambient Water Quality Criteria.

The U.S. EPA TSD recommends converting acute (one-hour average) and chronic (four-day average) aquatic life criteria to maximum daily and average monthly effluent limitations. Conversions are demonstrated in the following equations:

$$LTA_{ac} = WLA_{ac} \times \exp\left(0.5\sigma^2 - z\sigma\right)$$
$$LTA_{c} = WLA_{c} \times \exp\left(0.5\sigma_4{}^2 - z\sigma_4\right)$$
$$LTA = \min\left(LTA_C, LTA_{ac}\right)$$
$$AMEL = LTA \times \exp\left(z\sigma_n - 0.5\sigma_n{}^2\right)$$
$$MDEL = LTA \times \exp\left(z\sigma - 0.5\sigma^2\right)$$

where

LTA_{ac} = Acute long-term average wasteload in chronic units = 241
LTA_c = Chronic long-term average wasteload = 45.9
WLA_{ac} = Acute wasteload allocation in chronic toxic units
LTA = Long-term average = 45.9
σ = Standard deviation = 8.5
AMEL = Average monthly effluent limitation
MDEL = Maximum daily effluent limitation

Using above equations, maximum daily and average monthly concentration-based Effluent Limitations for aluminum are calculated at 143 µg/l and 71 µg/l, respectively. In addition, this Order contains maximum daily and average monthly mass-based Effluent Limitations for aluminum. Mass-based Effluent Limitations are calculated using the equation (*).

Atrazine

Analytical laboratory results submitted by the Discharger indicate that atrazine was detected in one of two effluent samples. The maximum detected effluent concentration of atrazine was estimated at 0.83 µg/l (reported as "J Flag"). The MDL and RL for atrazine were reported at 0.06 µg/l and 1.0 µg/l, respectively. Using the TSD reasonable potential analysis, the projected MEC of atrazine is calculated at 6.1 µg/l.

California DHS has adopted a Primary MCL of 1.0 µg/l for atrazine. The projected MEC of atrazine exceeds the Primary MCL, it indicates that the discharge from the Auburn Rancheria Casino WWTP does have a reasonable potential to cause an in-stream excursion above a water quality standard for atrazine.

To protect the municipal and domestic water supply beneficial use, this Order includes a monthly average concentration-based Effluent Limitation for atrazine based on the Basin Plan chemical constituents objective at the Primary MCL of 1.0 µg/l. In addition, this Order contains a mass-based Effluent Limitation for atrazine, calculated using the equation (*).

Barium

Analytical laboratory results submitted by the Discharger indicate that barium was detected in both effluent samples. The maximum detected effluent concentration of barium was estimated at 27 µg/l. The MDL and RL of barium were reported at 1.2 µg/l and 100 µg/l, respectively. U.S. EPA and the Department of Health Service established a Primary MCL of 2,000 µg/l and 1,000 µg/l for barium, respectively.

Using the TSD reasonable potential analysis, the projected MEC of barium is calculated at 200 µg/l. Because the maximum detected concentration of barium was reported as "J Flag" and that the RL does not exceed the Primary MCL, it indicates that the discharge from the WWTP does not have a reasonable potential to cause an exceedance of a water quality standard for barium. Therefore, no effluent limitation for barium is included in this Order.

Boron

Analytical laboratory results submitted by the Discharger indicate that boron was detected in both effluent samples. The maximum detected effluent concentration of boron was reported at 3,500 µg/l. The Agricultural Water Quality Goal for boron is 700 µg/l (Ayers, R.S. and D.W. Westcot, Water Quality for Agriculture, Food, and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome, 1985). The DHS drinking water Action Level, based on human health, is 1,000 µg/l.

Using the TSD reasonable potential analysis, the projected MEC of boron is calculated at 25,900 µg/l. The maximum detected effluent concentration of boron exceeds both the Agricultural Goal and the Action Level. Agricultural irrigation and municipal and domestic supply are beneficial uses of the Sacramento River and tributaries downstream of the discharge from the Auburn Rancheria Casino WWTP. Undiluted wastewater effluent can be withdrawn from the receiving water for agricultural irrigation. Therefore, to protect the agricultural beneficial use, an Effluent Limitation for boron is included in this Order as a monthly average, based on the chemical constituents narrative objective applied using the Agricultural Goal. In addition, this Order contains a mass-based Effluent Limitation for boron, calculated using the equation (*).

Fluoride

Analytical laboratory results submitted by the Discharger indicate that fluoride was detected in both effluent samples. The maximum detected effluent concentration of fluoride was reported at 520 µg/l. Using the TSD reasonable potential analysis, the projected MEC of fluoride is calculated at 3,848 µg/l.

California DHS established a Primary MCL of 2,000 µg/l for fluoride. The Agricultural Water Quality Goal for fluoride is 1,000 µg/l (Ayers and Westcot). The projected MEC of fluoride exceeds the Agricultural Goal. Agricultural irrigation is designated as a beneficial use of the Sacramento River from the Colusa Basin Drain to the "I" Street Bridge, downstream of the discharge from Auburn Rancheria Casino WWTP. Undiluted wastewater effluent can be withdrawn from the receiving water for agricultural irrigation. Therefore, to protect the agricultural beneficial use, an Effluent Limitation for fluoride is included in this Order as a monthly average. In addition, this Order contains a mass-based Effluent Limitation for fluoride, calculated using the equation (*).

Methylene Blue Active Substances (MBAS)

Analytical laboratory results submitted by the Discharger indicate that MBAS was detected in both effluent samples. The maximum detected effluent concentration of MBAS was estimated at 72 µg/l. The MDL and RL of MBAS were reported at 21 µg/l and 100 µg/l, respectively. Using the TSD reasonable potential analysis, the projected MEC for MBAS is calculated at 533 µg/l.

California DHS established a Secondary MCL for MBAS of 500 µg/l. The projected MEC of MBAS exceeds the Secondary MCL. To protect the municipal and domestic water supply beneficial use, this Order includes a monthly average concentration-based Effluent Limitation for MBAS based on the Basin Plan chemical constituents objective at the Secondary MCL of 500 µg/l. In addition, this Order contains a monthly average mass-based Effluent Limitation for MBAS, calculated using the equation (*).

Iron

Iron is an abundant element in the earth's crust. It is believed to be the major component of the earth's core. Several studies have shown that high iron content in the body linked to cancer and heart disease. Iron can be poisonous and if high dose of iron is taken over a long period, it could result in liver and heart damage, diabetes, and skin changes.

Analytical laboratory results submitted by the Discharger indicate that iron was detected in one of two effluent samples. The maximum detected effluent concentration of iron was estimated at 17 µg/l. The MDL and RL of iron were reported at 2.4 µg/l and 100 µg/l, respectively. Using the TSD reasonable potential analysis, the projected MEC of iron is calculated at 126 µg/l. The current Secondary MCL for iron is 300 µg/l.

Because detected concentration of iron was reported as "J Flag" and that the RL does not exceed the Secondary MCL, it indicates that the discharge from the Auburn Rancheria Casino WWTP does not have a reasonable potential to cause an exceedance of a water quality standard for iron. Therefore, no effluent limitation for iron is included in this Order.

Molinate

Analytical laboratory results submitted by the Discharger indicate that molinate was detected in one of two effluent samples. The detected effluent concentration of molinate was reported at 0.5 µg/l. Using the TSD reasonable potential analysis, the projected MEC of molinate is calculated at 3.7 µg/l. The Department of Health Service established a Primary MCL of 20 µg/l for molinate.

The projected MEC of molinate does not exceed the Primary MCL. It indicates that the discharge from the WWTP does not have a reasonable potential to cause an exceedance of a water quality standard for molinate. Therefore, no effluent limitation for molinate is included in this Order.

Nitrate (as N)

Untreated domestic wastewater contains ammonia. Nitrification is a biological process that converts ammonia to nitrate, and denitrification is a process that converts nitrate to nitrogen gas, which is then released to the atmosphere. Wastewater treatment plants commonly use nitrification process to remove ammonia from the waste stream. Inadequate or incomplete nitrification or denitrification may result in the discharge of ammonia or nitrate to the receiving stream. Nitrate is one of the important nutrients for algae. An excess nitrate may cause the rapid growth of algae. The algae population becomes an extreme and algae dies. Decomposition occurs using much oxygen and other aquatic organisms also die and decompose. This condition is known as eutrophication and the ecological balance has been destroyed. Recent toxicity studies have indicated that a possibility that nitrate in the discharge is toxic to aquatic organisms.

Analytical laboratory results submitted by the Discharger indicate that nitrate (as N) was detected in the effluent at a maximum concentration of 16,000 µg/l. Using the TSD reasonable potential analysis, the projected MEC of nitrate is calculated at 16,000 µg/l. California DHS established a Primary MCL equivalent to 10,000 µg/l for nitrate (as N). An Effluent Limitation for nitrate is included in existing Waste Discharge Requirements, Order No. 5-01-068, in accordance with the Basin Plan chemical constituents objective.

The maximum detected effluent concentration of nitrate exceeds the monthly average Effluent Limitation contained in the existing permit. Therefore, nitrate has violated and presents a reasonable potential to cause or contribute to an exceedance of permit limitations. The monthly average concentration-based Effluent Limitation for nitrate as contained in the existing permit is continued in this Order. In addition, this Order contains a monthly average mass-based Effluent Limitation for nitrate, calculated using the equation (*).

Nitrite (as N)

Analytical laboratory results submitted by the Discharger indicate that nitrite was detected in both effluent samples. The maximum detected effluent concentration of nitrite was estimated at 75 µg/l. The MDL and RL of nitrite were reported at 6 µg/l and 400 µg/l, respectively. U.S. EPA and California DHS developed a Primary MCL of 1,000 µg/l for nitrite (as N).

Using the TSD reasonable potential analysis, the projected MEC of nitrite is calculated at 555 µg/l. Because the maximum detected concentration of nitrite was reported as "J Flag" and that the RL does not exceed the Primary MCL, it indicates that the discharge from the WWTP does not have a reasonable potential to cause an exceedance of a water quality standard for nitrite. Therefore, no effluent limitation for nitrite is included in this Order.

Sulfate

Analytical laboratory results submitted by the Discharger indicate that sulfate was detected in both effluent samples. The maximum detected effluent concentration of sulfate was reported at 70,000 µg/l. Using the TSD reasonable potential analysis, the projected MEC of sulfate is calculated at 518,000 µg/l. California DHS established a Secondary MCL of 250,000 µg/l for sulfate. In addition, U.S. EPA Recommended Ambient Water Quality Criterion to protect human welfare is also 250,000 µg/l.

The maximum detected effluent concentration of sulfate exceeds the Secondary MCL and the U.S. EPA Recommended Criterion. To protect the municipal and domestic beneficial use, this Order includes a monthly average concentration-based Effluent Limitation of 250,000 µg/l for sulfate based on the Basin Plan chemical constituent objective at the Secondary MCL. In addition, this Order contains a monthly average mass-based Effluent Limitation for sulfate, calculated using the equation (*).

Tributyltin

Analytical laboratory results submitted by the Discharger indicate that tributyltin was detected in one of the two effluent samples. The maximum detected effluent concentration of tributyltin was reported at 0.008 µg/l. U.S. EPA established Ambient Water Quality freshwater aquatic life continuous concentration and maximum concentration criteria of 0.072 µg/l as a four-day average and 0.46 µg/l as an one-hour average, respectively, for tributyltin. Using the TSD reasonable potential analysis, the projected MEC of tributyltin is calculated at 0.059 µg/l. The maximum detected concentration of tributyltin does not exceed the Ambient Criteria. It indicates that the discharge from the WWTP does not have a reasonable potential to cause an exceedance of a water quality standard for tributyltin. Therefore, no effluent limitation for tributyltin is included in this Order.

Xylenes

Analytical laboratory results submitted by the Discharger indicate that xylenes was detected in one of two effluent samples. The maximum detected effluent concentration of xylenes was reported at 0.71 µg/l. U.S. EPA and the Department of Health Service established a Primary MCL of 10,000 µg/l and 1,750 µg/l for xylenes, respectively. U.S. EPA developed a Secondary MCL of 20 µg/l for xylenes.

Using the TSD reasonable potential analysis, the projected MEC of xylenes is calculated at 5.3 µg/l. The projected MEC of xylenes does not exceed any water quality criteria. Therefore, no Effluent Limitation for xylenes is included in this Order.

Arsenic

Arsenic is a toxic substance that is known to cause adverse human health effects. Exposure to arsenic at high levels poses serious health effects as it is a known human carcinogen. Studies have shown that prolonged arsenic exposure significantly increases the risk of contracting various forms of cancer. In addition, it has been reported to affect the vascular system in humans and has been associated with the development of diabetes.

Arsenic can combine with other elements to form inorganic and organic arsenicals. In the environment, arsenic combines readily with many elements to form inorganic compounds: with hydrogen to form arsine, an extremely poisonous gas; with oxygen to form a pentoxide and trioxide (As_2O_3 or As_4O_6), a deadly poison also called arsenic (III) oxide, arsenious oxide, white arsenic, or, simply, arsenic; with the halogens; and with sulfur. Arsenic in animals and plants combines with carbon and hydrogen to form organic arsenic compounds. Organic arsenic compounds are less toxic than inorganic arsenic compounds. While food contains both inorganic and organic arsenicals, primarily inorganic forms are present in water. Exposure to high levels of some organic arsenic compounds may cause similar effects as inorganic arsenic.

Analytical laboratory results submitted by the Discharger indicate that arsenic was detected in both effluent samples. The maximum detected effluent concentration of arsenic was reported at 3 µg/l. Pursuant to the Basin Plan Tributary Rule, the municipal and domestic water supply beneficial use designation of the Sacramento River from the Colusa Basin Drain to the "I" Street Bridge is applied to the unnamed tributary to Orchard Creek. For beneficial use that is designated as municipal and domestic water supply, the Basin Plan prohibits the discharge that contains chemicals in concentrations that exceed California drinking water Maximum Contaminant Levels (MCLs) and toxic substances in toxic amounts. U.S. EPA freshwater aquatic life CTR criteria for arsenic are 150 µg/l (as a four-day average) and 340 µg/l (as a one-hour average). The California DHS Primary MCL for arsenic is 50 µg/l. On 31 October 2001, U.S. EPA adopted a new drinking water standard for arsenic. The new U.S. EPA Primary MCL for arsenic is 10 µg/l. The Safe Drinking Water Act requires California DHS to adopt a Primary MCL at least as low as the U.S. EPA Primary MCL. To protect drinking water-related uses in the longer term, it is reasonable to require compliance with the U.S. EPA Primary MCL for arsenic until California DHS adopt a new California Primary MCL. The drinking water standards for arsenic are lower than the aquatic life CTR criteria. Therefore, to protect the municipal and domestic beneficial uses, newer U.S. EPA drinking water standards shall be used to establish effluent limitations. Using the TSD reasonable potential analysis, the projected MEC of arsenic is calculated at 22 µg/l. The projected MEC of arsenic exceeds the U.S. EPA Primary MCL. To protect the municipal and domestic beneficial use, this Order includes a monthly average concentration-based Effluent Limitation of 10 µg/l for arsenic based on the Basin Plan chemical constituent objective at the U.S. EPA Primary MCL. In addition, this Order contains a monthly average mass-based Effluent Limitation for arsenic, calculated using the equation (*).

Total Trihalomethanes and Chloroform

Analytical laboratory results submitted by the Discharger indicate that chloroform was detected in both effluent samples at a maximum concentration of 16 µg/l. Chloroform is included in the CTR. However, no CTR criteria for chloroform have yet been established. Therefore, the reasonable potential analysis for non-CTR constituents is applied to chloroform to determine whether chloroform causes or has a reasonable potential to cause an exceedance of a water quality criterion or objective. Using the TSD reasonable potential analysis, the projected MEC of chloroform is calculated at 118 µg/l.

The Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA) has published the Toxicity Criteria Database, which contains cancer potency factors for chemicals, including chloroform, that have been used as a basis for regulatory actions by the boards, departments and offices within Cal/EPA. The OEHHA cancer potency value for oral exposure to chloroform is 0.031 milligrams per kilogram body weight per day (mg/kg-day). By applying standard toxicologic assumptions used by OEHHA and U.S. EPA in evaluating health risks via drinking water exposure of 70 kg body weight and 2 liters per day water consumption, this cancer potency factor is equivalent to a concentration in drinking water of 1.1 ug/L (ppb) at the one-in-a-million cancer risk level. This risk level is consistent with that used by the DHS to set *de minimus* risks from involuntary exposure to carcinogens in drinking water in developing MCLs and Action Levels and by OEHHA to set negligible cancer risks in developing Public Health Goals for drinking water. The one-in-a-million cancer risk level is also mandated by U.S.EPA in applying human health protective criteria contained in the NTR and the CTR to priority toxic pollutants in California surface waters. Since no drinking water intakes are likely to exist where the ingestion of water is equivalent to the level used in development of the cancer risk assessment downstream of the discharge from the Auburn Rancheria Casino WWTP; therefore, setting a chloroform effluent limitation based on a cancer risk analysis is not appropriate. Although application of the cancer risk criteria is inappropriate, protection of the municipal water supply is necessary and appropriate. The Primary MCL for total trihalomethanes, the sum of bromoform, bromodichloromethane, chloroform, and dibromochloromethane, is 80 µg/l.

The projected MEC of chloroform exceeds the Primary MCL. It indicates that the discharge from the WWTP does have a reasonable potential to cause an in-stream excursion above the water quality objective for chemical constituents to protect municipal and domestic supply uses. Therefore, an Effluent Limitation for total trihalomethanes is included in this Order and is based on the Basin Plan objective for municipal use. If U.S. EPA or the State Board develops a water quality objective for chloroform and/or total trihalomethanes, this Order may be reopened and a new Effluent Limitation established.

Total Coliform Organisms and Turbidity

Total coliform bacteria is a group of bacteria that includes fecal coliforms and other non-fecal bacteria. Escherichia coli (E.coli) is a specific kind of fecal coliform that is found in human and other mammal waste. Some of the health risks associated with fecal-contaminated water are

gastroenteritis, ear infections, typhoid fever, dysentery, and hepatitis. The presence of coliform suggests contamination of the water supply that may include such harmful microorganisms giardia and cryptosporidium as well as others.

The California Department of Health Services (DHS) has developed reclamation criteria, California Code of Regulations, Title 22, 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. Title 22 is not directly applicable to surface waters; however, the Regional Board finds that it is appropriate to apply DHS's reclamation criteria because agricultural irrigation beneficial use is applied to the unnamed tributary to Orchard Creek pursuant to the Tributary Rule. The stringent disinfection criteria of Title 22 are appropriate since the undiluted effluent may be used for the irrigation of food crops. Coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens. Effluent Limitations for total coliform organisms based on the tertiary treatment standards are included in this Order to protect the beneficial uses of nonrestricted contact recreation and irrigation in the Sacramento River from the Colusa Basin Drain to the "I" Street Bridge, downstream of the discharge from the Auburn Rancheria Casino WWTP.

In addition to the coliform testing, a turbidity effluent limitation has been included as a second indicator of the effectiveness of the treatment process and to assure compliance with the required level of treatment. Failure of the filtration system, such that virus removal is impaired, would normally result in increased particles in the effluent and higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid correction action. Effluent Limitations for turbidity are included in this Order.

BOD and TSS

Biochemical oxygen demand (BOD) is a measure of the amount of oxygen that bacteria will consume while decomposing the organic matter under aerobic condition. BOD measurements are used as a measure of the organic strength of waste in water.

Total suspended solids (TSS) are solids in water that can be trapped by a filter. Total suspended solid is a parameter use to measure water quality as a concentration of mineral and organic sediment. TSS can include a wide variety of material, such as silt, decaying plant and animal matter, industrial wastes, and sewage. High concentrations of suspended solids can cause many problems for stream health and aquatic life.

High TSS can block light from reaching submerged vegetation. As the amount of light passing through the water is reduced, photosynthesis slows down. Reduced rates of photosynthesis cause less dissolved oxygen to be released into the water by plans. If light is completely blocked from bottom dwelling plants, the plants will stop producing oxygen and will die. As the plants are decomposed,

bacteria will use up even more oxygen from the water. Low dissolved oxygen can lead to fish kills. High TSS can also cause an increase in surface water temperature, because the suspended particles absorb heat from sunlight. This can cause dissolved oxygen levels to fall even further and can harm aquatic life in many other ways.

Effluent Limitations for BOD and TSS have been established at 10 mg/l, 15 mg/l, and 20 mg/l as a 30-day average, weekly average, and daily average based on the capability of the tertiary treatment system.

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." Order No. R5-2005-0032 contains average monthly and average daily effluent limitations for settleable solids.

Total Chlorine Residual

Chlorine is commonly used as a disinfection agent in the treatment of the wastewater. Proper disinfection ensures destruction of pathogens prior to discharge to the surface waters. The Discharger adds sodium hypochlorite (NaOCl) into the backpulse flow during the period of the backpulse sequence to inhibit biogrowth in the membrane modules. Sodium hypochlorite is unstable and can release chlorine gas if acidified. Chlorine combines with natural organic matter to form cancer-causing compounds known as trihalomethanes. A side reaction to the oxidation reactions of hypochlorite is chlorination of organic molecule to form by-products. The use of sodium hypochlorite as a disinfectant presents a reasonable potential that it could be discharged in toxic concentrations.

U.S. EPA has developed Recommended Ambient Water Quality criteria for the protection of freshwater aquatic life. The recommended maximum one-hour average and four-day average concentrations for chlorine are 0.019 mg/l and 0.011 mg/l, respectively. This Order includes a one-hour average Effluent Limitation of 0.02 mg/l and four-day average Effluent Limitation of 0.01 mg/l for chlorine based on the Basin Plan narrative toxicity objective utilizing Recommended Ambient Water Quality criteria.

Electrical Conductivity, Total Dissolved Solids, and Chloride

Electrical Conductivity (EC):

EC measures the ability of the water sample to carry an electrical current, a property which is proportional to the concentration of ions in solution. Domestic and industrial uses of water, result in an increase in the mineral content of the wastewater. The salinity of the wastewater is determined by measuring EC. When salts dissolve in water, ions are formed and the solution will conduct electricity. EC increases with salinity because of the increasing presence of ions.

The Auburn Rancheria Casino discharges treated wastewater to an unnamed tributary to Orchard Creek, Orchard Creek, Auburn Ravine, the East Side Canal, Cross Canal, and the Sacramento River from the Colusa Basin Drain to the "I" Street Bridge. The Basin Plan, Table II-1, designates Irrigated Agriculture as a beneficial use of the Sacramento River from the Colusa Basin Drain to the "I" Street Bridge. Water Rights have been issued by the State Water Resources Control Board to divert water from downstream waters of the Casino's discharge for irrigation purposes.

The Basin Plan states, on Page III-3.00 Chemical Constituents, that "Waters shall not contain constituents in concentrations that adversely affect beneficial uses." The Basin Plan's "Policy for Application of Water Quality Objectives" provides that in implementing narrative water quality objectives, the Regional Board will consider numerical criteria and guidelines developed by other agencies and organizations. This application of the Basin Plan is consistent with Federal Regulations, 40 CFR 122.44(d).

For EC, Ayers R.S. and D.W. Westcott, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985), levels above 700 µmhos/cm will reduce crop yield for sensitive plants. The University of California, Davis Campus, Agricultural Extension Service, published a paper, dated 7 January 1974, stating that there will not be problems to crops associated with salt if the EC remains below 750 µmhos/cm.

Analytical laboratory results submitted by the Discharger reveal that of 196 effluent samples for electrical conductivity (EC), the maximum concentration was 6,900 µmhos/cm and the average discharge concentration was 1,697 µmhos/cm. The wastewater discharge presents a reasonable potential to causes violation of the Chemical Constituent Water Quality Objective in the Basin Plan. The available literature regarding safe levels of EC for irrigated agriculture were considered in requiring that an Effluent Limitation for EC is necessary to protect the beneficial use of the receiving stream in accordance with the Basin Plan and Federal Regulations.

To protect the agricultural irrigation beneficial use of the receiving stream, this Order includes an Effluent Limitation of 700 µmhos/cm for EC based on the Agricultural Goal.

Total Dissolved Solids (TDS):

Total dissolved solids are materials that can be dissolved in water. These materials can include carbonate, bicarbonate, chloride, sulfate, phosphate, nitrate, calcium, magnesium, sodium, organic ions, and other ions. A certain level of these ions in water is necessary for aquatic life. If TDS concentrations are too high or too low, the growth of many aquatic organisms can be limited, and death may occur. High concentrations of TDS may also reduce water clarity, contribute to a decrease in photosynthesis, combine with toxic compounds and heavy metals, and lead to an increase in water temperature.

By measuring the EC of a water sample, the presence of TDS in the sample can be determined. The more amounts of TDS in the wastewater, the greater the level of EC. Analytical laboratory results submitted by the Discharger reveal that the maximum concentration and average concentration of TDS in the effluent were 1,900 mg/l and 1,024 mg/l, respectively. The current Agricultural Water Quality Goal for TDS is 450 mg/l. The maximum detected concentration of TDS in the effluent is approximately four times greater than the Agricultural Water Quality Goal. High concentrations of TDS can be a problem for water used for irrigation. However, effluent limitation for TDS is not included in this Order because the direct relationship between EC and TDS and that an Effluent Limitation for EC is included in this Order. Advantages of selecting EC over TDS are the time- and cost-effective with which measurements can be made.

Chloride:

Analytical laboratory results submitted by the Discharger indicates that chloride was detected in both effluent samples at concentrations of 480,000 µg/l to 330,000 µg/l. The current Secondary MCL for chloride is 250,000 µg/l. The Agricultural Water Quality Goal for chloride is 106,000 µg/l.

Sodium chloride consists of sodium ions (Na+) and chloride ions (Cl-) held together in a crystal. In water, sodium chloride breaks apart into an aqueous solution of sodium and chloride ions. This solution will conduct an electric current. Because dissolved ions in water increase conductivity, the measures of chloride ion and EC are related. Effectively control the level of EC will result in less amount of chloride in the effluent. Since an Effluent Limitation for EC is established in this Order, no effluent limitation for chloride is included in this Order.

Flow

The Report of Waste Discharge indicates that the maximum daily treatment capacity of Auburn Rancheria Casino WWTP is 0.35 million gallons per day (mgd). Therefore, the influent flow limit is established at 0.35 mgd.

pH

For all surface water bodies in the Sacramento River and San Joaquin River basins, the Basin Plan includes a water quality objective for pH in surface waters, which states " *The pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh water with designated COLD and WARM beneficial uses*." At times, the unnamed tributary to Orchard Creek provides insignificant dilution for the effluent discharged from the wastewater treatment plant. The effluent limitation for pH included in this Order will be based on the water quality objective described in the Basin Plan.

Toxicity

Analytical laboratory results submitted by the Discharger indicate that the percent survival for *ceriodaphnia dubia* from the chronic toxicity test in November 2003 and August 2004 was 80 % and 30 %, respectively. The reproduction for *ceriodaphnia dubia* and the growth for *selenastrum capricornutum* were reported to be significantly reduced for the effluent sample with respect to the ambient control water. The toxicity tests conducted up to date have been used 100 % of the effluent discharged from the wastewater treatment plant. With a low available dilution and very low percent survival of *ceriodaphnia dubia* and a significant reduction in reproduction for *ceriodaphnia dubia* and in growth for *selenastrum capricornutum,* it is concluded that discharges from the treatment plant have caused adverse effects on aquatic organisms. The Basin Plan states that "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances." The Basin Plan requires that "as a minimum, compliance with this objective…shall be evaluated with a 96-hour bioassay." Order No. R5-2005-0032 requires both acute and chronic toxicity monitoring to evaluate compliance with this water quality objective. The Basin Plan also states: "…effluent limits based upon acute biotoxicity tests of effluents will be prescribed…". Effluent limitations for acute toxicity are included in the Order.

The Basin Plan states that "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances." The Basin Plan requires that "as a minimum, compliance with this objective…shall be evaluated with a 96-hour bioassay." Order No. R5-2005-0032 requires both acute and chronic toxicity monitoring to evaluate compliance with this water quality objective. The Basin Plan also states: "…effluent limits based upon acute biotoxicity tests of effluents will be prescribed…". Effluent limitations for acute toxicity are included in the Order.

Ammonia

Untreated domestic wastewater contains ammonia. Nitrification is a biological process that converts ammonia to nitrate, and denitrification is a process that converts nitrate to nitrogen gas, which is then released to the atmosphere. Wastewater treatment plants commonly use nitrification process to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream.

In water, un-ionized ammonia (NH_3) exists in equilibrium with the ammonium ion (NH_4^+). The toxicity of aqueous ammonia solutions to aquatic organisms is primarily attributable to the un-ionized ammonia form, with the ammonium ion being relatively less toxic. Total ammonia refers to the sum of these two forms in aqueous solutions. Analytical methods are used to directly determine the total ammonia concentration, which is then used to calculate the un-ionized ammonia (toxic) concentration in water.

U.S. EPA's Recommended Ambient Water Quality criteria for the protection of freshwater aquatic life include acute (one-hour average) criteria based on pH and the presence or absence of salmonids and chronic (30-day average) criteria based on pH, temperature, and the presence or absence of early life stages of aquatic organisms. U.S. EPA found that as pH increased, both the acute and chronic toxicity of ammonia increased. Salmonids are more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia as not influenced by the temperature, it has been found that inverterbrates and young fish experienced increasing chronic toxicity effects with increasing temperature. U.S. EPA has presented the acute ammonia criteria in three ways: as equations, in a table, and in graphs that relate pH to ammonia concentrations. Warm and cold freshwater aquatic habitat is designated as beneficial uses of the Sacramento River, which is downstream from the unnamed tributary to Orchard Creek. Pursuant to the Basin Plan Tributary Rule, the warm and cold freshwater aquatic habitat beneficial use also applied to the unnamed tributary to Orchard Creek. In fact, the California Department of Fish and Game (DFG) has verified the presence of salmon in Auburn Ravine, downstream of the discharge from the Auburn Rancheria Casino.

The 30-day average and the one-hour average Ambient Water Quality criteria for the protection of freshwater aquatic life are determined using the following equations:

$$CCC = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right) x\ MIN\left(2.85, 1.45 \cdot 10^{0.028(25-T)}\right)$$

$$CMC_{salmonids\ \ present} = \left(\frac{0.275}{1+10^{7.204-pH}} + \frac{39.0}{1+10^{pH-7.204}} \right)$$

where

CMC = criteria maximum concentration (mg N/l)
CCC = criteria continuous concentration (mg N/l)
T = temperature (ºC)

Using the worst-case for pH, with a maximum of 8.25, and temperature, with a maximum of 35.9ºC, and assuming the presence of both salmonids and early life stages of aquatic organisms, the criteria continuous concentration (30-day average) and the criteria maximum concentration (one-hour average) for ammonia are calculated at 0.42 mg N/l and 3.5 mg N/l, respectively, both measured as total ammonia nitrogen.

The discharge from the Auburn Rancheria Casino WWTP has a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan narrative toxicity objective. Therefore, this Order includes 30-day average and one-hour average concentration-based Effluent Limitations for total ammonia nitrogen based on the Basin Plan narrative toxicity objective and the U.S. EPA Recommended Ambient Water Quality Criteria. In addition, this Order includes mass-based Effluent Limitations calculated using the equation (*).

RECEIVING WATER LIMITATIONS AND MONITORING

Fecal Coliform

The Sacramento River from the Colusa Basin Drain to the "I" Street Bridge has been designated as having the beneficial use of contact recreation (REC-1). Pursuant to the Basin Plan Tributary Rule, the beneficial use of contact recreation (REC-1) is applied to the unnamed tributary to Orchard Creek. For water bodies designated as having REC-1 as a beneficial use, the Basin Plan includes a water quality objective limiting the "…*fecal coliform concentration based on a minimum of not less than five samples for any 30-day period*…" to a maximum geometric mean of 200 MPN/100 ml. The objective also states that "…[no] *more than ten percent of the total number of samples taken during any 30-day period* [shall] *exceed 400/100 ml*." This objective is included in the Order as a receiving water limitation.

Dissolved Oxygen

Warm and cold freshwater aquatic habitat is designated as a beneficial use of the Sacramento River from the Colusa Basin Drain to the "I" Street Bridge, which is downstream from the unnamed tributary to Orchard Creek. Pursuant to the Basin Plan Tributary Rule, warm and cold freshwater aquatic habitat beneficial use is applied to the unnamed tributary to Orchard Creek. The California Department of Fish and Game (DFG) has verified the presence of both salmon and steelhead (an anadromous species) in Auburn Ravine, downstream of the discharge from the Auburn Rancheria Casino. For water bodies designated as having cold freshwater aquatic habitat as a beneficial use, the Basin Plan includes a water quality objective of maintaining a minimum of 7.0 mg/l of dissolved oxygen. The current WDRs, Order No. 5-01-068, includes a limitation of 7.0 mg/l for dissolved oxygen. The receiving water limitation for dissolved oxygen as contained in the existing permit is continued in this Order.

For surface water bodies outside of the Delta, the Basin Plan requires 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 is included as a receiving water limitation in the Order.

pH

For all surface water bodies in the Sacramento River and San Joaquin River basins, the Basin Plan includes a water quality objective for pH in surface waters, which states: " The pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh water with designated COLD and WARM beneficial uses." Both warm and cold freshwater aquatic habitats are designated as beneficial uses of the Sacramento River from the Colusa Basin Drain to the "I" Street Bridge, which is downstream from the unnamed tributary to Orchard Creek. Therefore, warm and cold freshwater aquatic habitat beneficial use is applied to the unnamed

tributary to Orchard Creek pursuant to the Basin Plan Tributary Rule. This Order includes receiving water limitations for pH based on the water quality objective described in the Basin Plan.

Temperature

The Basin Plan includes the following objective: "At no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5ºF above natural receiving water temperature." Warm and cold freshwater aquatic habitat has been designated as beneficial use of the Sacramento River from the Colusa Basin Drain to the "I" Street Bridge, which is downstream from the unnamed tributary to Orchard Creek. Therefore, warm and cold freshwater aquatic habitat beneficial use is also applied for the unnamed tributary to Orchard Creek pursuant to the Basin Plan Tributary Rule. This Order includes receiving water limitations for temperature based on the water quality objective described in the Basin Plan.

Turbidity

The Basin Plan states that: "Waters shall be free of changes in turbidity that cause nuisance or adversely effect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:

- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.

- Where natural turbidity is between 5 and 10 NTUs, increases shall not exceed 20 percent.

- Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTU.

- Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent."

This Order includes receiving water limitations for turbidity based on the water quality objective described in the Basin Plan.

Ammonia and Chlorine

U.S. EPA has developed Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life for ammonia and for chlorine. The Order contains effluent limitations for ammonia and for chlorine equal to the Ambient Water Quality Criteria. Compliance with the effluent limitations for ammonia and for chlorine means that the discharge cannot cause an exceedance of the criteria in the receiving stream; in other words, the limitations are fully protective of water quality. Therefore, no receiving water ammonia or chlorine limitations are included in the Order.

Toxicity

The Basin Plan states that "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This

objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances." The Basin Plan requires that "as a minimum, compliance with this objective…shall be evaluated with a 96-hour bioassay." Order No. R5-2005-0032 requires both acute and chronic toxicity monitoring to evaluate compliance with this water quality objective. The Basin Plan also states: "…effluent limits based upon acute biotoxicity tests of effluents will be prescribed…". Effluent limitations for acute toxicity are included in the Order.

COMPLIANCE SCHEDULES

The use and location of compliances schedules in the permit depends on the Discharger's ability to comply and the source of the applied water quality criteria. For CTR-based Effluent Limitations, compliance schedules were included within the permit. For non-CTR-based Effluent Limitations, any necessary time schedules were generally included in the accompanying cease and desist order.

GENERAL EFFLUENT LIMITATION INFORMATION

Selected 40 CFR §122.2 definitions:

'*Average monthly discharge limitation* means 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 discharge limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.

Continuous discharge means a "discharge" which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities.

Daily discharge means the "discharge of a pollutant" measured during a calendar day or any 24-hour period that reasonable represents a calendar day for purposes of sampling. 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 average measurement of the pollutant over the day.

Maximum daily discharge limitation means the highest allowable "daily discharge".'

The SIP contains similar definitions. These definitions were used in the development of Order No. R5-2003-0085. Alternate limitation period terms were used in the permit for the sake of clarity. Alternates are shown in the following table:

Term Used in Permit	SIP/40 CFR 122.2 Term

Average monthly	Average monthly discharge limitation. 30-day averages may have been converted to monthly averages to conform with 40 CFR §122.45 (see below)
Average daily	Maximum daily discharge limitation. Since the daily discharge for limitations expressed in concentrations is defined as the average measurement of the pollutant over the day, the term 'Average Daily' was used in the Order.

40 CFR §122.45 states that:

(1) "In the case of POTWs, permit effluent limitations…shall be calculated based on design flow."

(2) "For continuous discharges all permit effluent limitations…shall unless impracticable be stated as…[a]verage weekly and average monthly discharge limitations for POTWs."

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

U.S. EPA recommends a maximum daily limitation rather than an average weekly limitation for water quality based permitting.

No recommended or approved methods have been provided for converting human health and four-day and one-hour toxicity criteria, standards, and objectives to weekly average effluent limitations; therefore, the conversion to weekly average limitations is impracticable.

TTP/ttp