

LATE REVISIONS
SHASTA-TEHAMA-TRINITY JOINT COMMUNITY COLLEGE DISTRICT
SHASTA COLLEGE WASTEWATER TREATMENT FACILITY
SHASTA COUNTY
Regional Water Quality Control Board, Central Valley Region
Board Meeting – 07/08 June 2012
ITEM # 22

Changes to Proposed WDR Permit Renewal

1. **WDR Permit.** Finding 60.d. Page 13.
Modify as shown in underline/strikeout format below:

The Discharger has not yet sampled its effluent for total dissolved solids, which have the potential to degrade groundwater quality at this site because there is little ability for attenuation in the vadose zone. According to Ayers and Westcot, dissolved solids can cause yield or vegetative growth reductions of sensitive crops if present in excess of 450 mg/L (or 700 umhos/cm EC) in irrigation water, thereby impairing agricultural use of the water resource. Strawberries are a salt-sensitive crop grown in the vicinity of the discharge using groundwater supply. In Order WQO-2004-0010, the State Water Resources Control Board addressed the direct application of the Ayers and Westcot values stating that the values given in the report cannot be interpreted as absolute values. The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) is a collaborative basin planning effort aimed at developing and implementing a comprehensive salinity and nitrate management program. One of the goals of CV-SALTS is to develop a methodology for determining the appropriate salinity objectives for the protection of agricultural beneficial uses. The applicable water quality objective to protect the municipal beneficial use from discharges of total dissolved solids is the secondary MCL of 500 mg/L which is applied following the "Policy of Application of Water Quality Objectives" in the Basin Plan. A nNumerical groundwater limitations of ~~500 mg/L for total dissolved solids and EC of 900 umhos/cm~~ for EC as annual averages, based on secondary MCLs ~~are~~ is appropriate to protect the unrestricted municipal beneficial use of groundwater in the absence of information to support a less protective limit. Based on EC testing of the ponds in 2012, the Discharger should be able to meet ~~these~~ this limitations. This permit regulates TDS by using EC as an indicator parameter.

2. **WDR Permit, Limitations.** Section E.1.a. Page 24.
Modify as follows:

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- a. Contain any of the following constituents in concentration greater than those listed below or greater than natural background quality, whichever is greater:

<u>Constituent</u>	<u>Units</u>	<u>Limitation</u>
Chloride	mg/L	250 ²
Iron	mg/L	0.3 ²
Manganese	mg/L	0.05 ²
Total Coliform Organisms	MPN/100 mL	2.2
Electrical Conductivity ¹	umhos/cm	900 ²
Total dissolved solids⁴	mg/L	500
Nitrite (as N)	mg/L	1
Nitrate (as N)	mg/L	10

¹ A cumulative impact limit that accounts for several dissolved constituents in addition to those listed here separately [e.g., alkalinity (carbonate and bicarbonate), calcium, hardness, phosphate, and potassium].

² Applied as an annual average.

3. Information Sheet. Groundwater Monitoring section.
 Modify as follows:

Constituent	Limit	Beneficial Use	Water Quality Objective	Criteria or Justification
Ammonia (mg/l)	1.5	MUN ¹	Tastes and Odors	Odor Threshold ²
Boron (mg/l)	1.0	MUN ¹	Toxicity	Calif. Drinking Water Notification Level based on toxicity ¹
Chloride (mg/l)	250	MUN ¹	Chemical Constituents	Recommended Secondary MCL ³
	500	MUN ¹	Chemical Constituents	Upper Secondary MCL ³
Electrical Conductivity at 25°C (umhos/cm)	900 ⁴	MUN ¹	Chemical Constituents	Secondary MCL ⁴⁵
Iron (mg/l)	0.3	MUN ¹	Chemical Constituents	Secondary MCL ⁴⁵
Manganese (mg/l)	0.05	MUN ¹	Chemical Constituents	Secondary MCL ⁴⁵
Nitrate plus Nitrite as N (mg/l)	10	MUN ¹	Chemical Constituents	Primary MCL ⁵⁶
Nitrite as N (mg/l)	1	MUN ¹	Chemical Constituents	Primary MCL ⁵⁶
Total Dissolved Solids (mg/l)	500	MUN⁴	Chemical Constituents	Recommended Secondary MCL³
	1,000	MUN⁴	Chemical Constituents	Upper Secondary MCL³
Total Coliform Organisms (MPN/100 ml)	<2.2	MUN ¹	Bacteria	Basin Plan numerical objective and non-detect
pH (units)	6.5 to 8.5	MUN ¹	Chemical Constituents	Secondary MCL ⁷⁸

¹ Municipal and domestic supply

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² J.E. Amooore and E. Hautala, Odor as an Aid to Chemical Safety: Odor Thresholds Compared with Threshold Limit Values and Volatilities for 214 Industrial Chemicals in Air and Water Dilution, Journal of Applied Toxicology, Vol. 3, No. 6 (1983).

³ Title 22, California Code of Regulations (CCR), Section 64449, Table 64449-B which is incorporated by reference into the Basin Plan.

³⁴ Applied as an annual average.

⁴⁵ Title 22, CCR, Section 64449, Table 64449-A which is incorporated by reference into the Basin Plan.

⁵⁶ Title 22, CCR, Section 64431, Table 64431-A which is incorporated by reference into the Basin Plan.

⁶⁷ Title 22, CCR, Section 64439, which applies the narrative objective to fully protect the cited beneficial use.

⁷⁸ Title 40, Code of Federal Regulations, Section 143.3, which applies the narrative objective to fully protect the cited beneficial use.