

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-0064

WATER RECYCLING REQUIREMENTS
FOR
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
INTERSTATE 5 FREEWAY LANDSCAPE IRRIGATION
SHASTA COUNTY

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

1. The State of California, Department of Transportation, (hereafter User) submitted a Report of Waste Discharge, on 1 February 2005, to recycle treated effluent from the City of Shasta Lake Wastewater Treatment Facility for landscape irrigation of Interstate 5 from Mile Post R21.0 to R22.4 in the City of Shasta Lake. The User proposes to use approximately 11.7 million gallons per year of recycled water for landscape irrigation.
2. The Water Recycling Area lies within the Redding Hydrologic Unit (No. 508), Enterprise Hydrologic Area (No. 508.10), as depicted on the interagency hydrologic maps prepared by the California Department of Water Resources. The Water Recycling Area is in Section 6, T32N, R4W and Sections 29 and 32, T33N, R4W, MDB&M; as shown on Attachment "A" which is a part of this Order. Surface water drainage from the site is to Moody Creek and Salt Creek, tributary to Stillwater Creek and Churn Creek, respectively, both of which are tributary to the Sacramento River.
3. The City of Shasta Lake Wastewater Treatment Plant (WWTP) treats approximately 0.7 mgd average dry weather flow, and has a design average dry weather flow of 1.3 mgd. Treated effluent from the Shasta Lake WWTP is discharged to Churn Creek, tributary to the Sacramento River during the winter and is used for irrigation and other recycled water uses during the summer months. The Shasta Lake WWTP provides advanced secondary level treatment with average concentrations of BOD less than 3 mg/L; and average suspended solids less than 3 mg/L. Biosolids generated by the Shasta Lake WWTP are disposed at a local sanitary landfill. The WWTP is regulated under Waste Discharge Requirements Order No. 5-01-217 (NPDES No. CA0079511).
4. The California Department of Health Services (DHS) has established statewide water recycling criteria effective 2 December 2000 in Chapter 3, Division 4, Title 22, California Code of Regulations (CCR), Section 60301, et seq. (hereafter Title 22) for the use of recycled water for food crop irrigation; fodder, fiber, and seed crop irrigation; landscape irrigation; and impoundment supply. These requirements implement the water recycling criteria in Title 22.

5. The effluent the User proposes to use for irrigation meets the definition for “Disinfected Tertiary Recycled Water” established by the State of California, Department of Health Services in Title 22, Division 4, Chapter 3, Section 60301.230.
6. The beneficial uses of the Sacramento River are municipal, industrial, and agricultural supply; recreation; esthetic enjoyment; navigation; ground water recharge; freshwater replenishment; hydroelectric power generation; and preservation and enhancement of fish, wildlife, and other aquatic resources.
7. The Regional Board consulted with DHS, and Shasta County Environmental Health and considered their comments.
8. The State Water Resources Control Board (SWRCB) adopted Resolution No. 77-1, titled, *Policy With Respect to Water Reclamation in California* on 6 January 1977. This policy requires the Regional Board to encourage water recycling and reuse of water in water-short areas of the state.
9. In 1996, the SWRCB and DHS set forth principles, procedures, and agreements to which the agencies committed themselves, relative to the use of recycled water in California, in a document titled *Memorandum of Agreement Between The Department of Health Services and The State Water Resources Control Board On Use of Reclaimed Water* (the MOA). This Order is consistent with the MOA.
10. The Regional Board adopted a Water Quality Control Plan, Fourth Edition, for the Sacramento River Basin and the San Joaquin River Basin (hereafter Basin Plan), which designates beneficial uses, establishes water quality objectives, and describes an implementation program and policies to achieve those objectives for all waters of the Basins. These requirements implement the Basin Plan.
11. The beneficial uses of the underlying groundwater include municipal, domestic, agricultural, and industrial supply.
12. The conditional discharge as permitted herein is consistent with the antidegradation provisions of the SWRCB Resolution No. 68-16. Assimilative capacity is available in the underlying groundwater and together with the high quality of the recycled water, the limited discharge period, and nutrient uptake by vegetation, incidental percolation of waste constituents should not cause groundwater degradation.
13. This discharge is exempt from the requirements of 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., (hereafter Title 27). The exemption, pursuant to Section 20090(b), is based on the following:
 - a. The Regional Board is issuing water recycling requirements,
 - b. The discharge complies with the Basin Plan, and

- c. The recycled water does not need to be managed according to Title 22, CCR, Division 4.5, Chapter 11, as a hazardous waste.
14. On 26 February 1992, the Shasta Dam Area Public Utilities District (SDAPUD, now incorporated as the City of Shasta Lake) certified the Environmental Impact Report for the Wastewater Treatment Facilities Improvement and Reclamation Project in accordance with the California Environmental Quality Act (CEQA) (Public Resource Code Section 21100, et seq.). The SDAPUD determined that the use of recycled water for this project would not have a significant impact on the environment. The Regional Board has considered the Environmental Impact Report and concurs that the water recycling project will not result in significant impacts to water quality.
15. The Regional Board has notified the WWTP, User, and interested agencies and persons of its intent to prescribe recycling requirements for this water reuse.
16. The Board has considered the information in the attached Information Sheet in developing the Findings of this Order. The attached Information Sheet is part of this Order.
17. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the State of California, Department of Transportation, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. The discharge of recycled water to surface waters or surface water drainage courses either by direct discharge or runoff from the water recycling area is prohibited.
2. By-pass or overflow of untreated or partially treated recycled water from the water recycling site is prohibited.
3. Discharges of recycled water, including windblown spray and runoff of recycled water applied for irrigation to lands for which valid recycling requirements are not in force, are prohibited.
4. The use of recycled water for irrigation during periods when the soil is saturated is prohibited.

B. Recycled Water Limitations

1. The recycled water discharge shall, at a minimum, be disinfected secondary-23 recycled water as defined in Title 22.

2. The median concentration of total coliform bacteria measured in the recycled water shall not exceed an MPN of 23 per 100 mL utilizing the bacteriological results of the last 7 days for which analyses have been completed, and the number of total coliform bacteria shall not exceed an MPN of 240 per 100 mL in more than one sample in any 30 day period.

C. Recycled Water Specifications

1. Neither the treatment nor the use of recycled water shall cause a pollution or nuisance as defined by the California Water Code, Section 13050.
2. The use of recycled water shall not cause degradation of any water supply.
3. The use of recycled water must comply with the provisions of Title 22.
4. Recycled water shall remain within the designated water recycling area, as defined in Finding No. 1, at all times.
5. The use of recycled water shall be limited to freeway landscape irrigation by direct application.
6. Recycled water shall be applied in amounts suitable for the plants being irrigated and consistent with prevailing irrigation practices for fresh water.
7. Recycled water shall not be applied so as to cause saturated conditions within 100 feet of any water body.
8. Application or impoundment of recycled water within 100 feet of any well used for domestic water supply is prohibited, unless approved by the Department of Health Services, Office of Drinking Water.
9. Recycled water used for irrigation shall be managed to minimize erosion and runoff.
10. The User shall preclude public contact to the water recycling areas through a satisfactory combination of fencing, posting, and irrigation management practices.
11. All areas where recycled water is used that are accessible to the public shall be posted with conspicuous signs, in a size no less than 4 inches high by 8 inches wide, that include the following wording: "RECYCLED WATER- DO NOT DRINK".
12. There shall be at least a 10-foot horizontal and 1-foot vertical separation at crossings between all pipelines transporting recycled water and those transporting domestic supply, with the domestic supply above the recycled water pipeline, unless approved by DHS.
13. There shall be no cross-connection between potable water supply and piping containing recycled water. Supplementing recycled water with potable water shall not be allowed

except through an air-gap separation, or if approved by DHS, a reduced pressure principle backflow device.

14. Areas irrigated with recycled water shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitoes and other disease vectors, and to avoid creation of a public nuisance or health hazard. The following practices shall be implemented, at a minimum:
 - a. Irrigation water must infiltrate completely within a 48-hour period.
 - b. Ditches receiving irrigation runoff, not serving as wildlife habitat, shall be maintained free of emergent, marginal, and floating vegetation.
 - c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.

D. Ground Water Limitations

1. The recycled water, in combination with other sources, shall not cause groundwater underlying the water recycling area to contain waste constituents statistically greater than background water quality except for coliform. For coliform, increases shall not cause the most probable number of total coliform organisms to exceed 2.2 MPN per 100 mL over any seven-day period.

E. Provisions

1. The User shall comply with Monitoring and Reporting Program No. R5-2005-0064, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.
2. The User shall comply with all applicable requirements in the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements," dated 1 March 1991, which are attached hereto and by reference a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)." For the purposes of this order, "Discharger" and "Permittee" as used in the Standard Provisions shall mean "User"; "disposal" shall mean "application"; and "disposal area" shall mean "Water Recycling Area".
3. The User must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
4. In the event of any change in control of land or recycled water presently controlled by the User, the User shall notify the succeeding responsible party of the existence of this Order by letter, a copy of which shall be forwarded to this office.

5. The User shall ensure that key operating personnel are familiar with this Order and its contents.
6. The User shall take all reasonable steps to minimize or prevent any discharge in violation of this Order which has reasonable likelihood of adversely affecting human health. In such an event, the User shall orally report the circumstances to the Executive Officer within 24 hours from the time of discovery.
7. The Regional Board will review this Order periodically and may revise requirements when necessary.

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 29 April 2005.

THOMAS R. PINKOS, Executive Officer

INFORMATION SHEET

ORDER NO. R5-2005-0064
STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION
INTERSTATE 5 FREEWAY LANDSCAPE IRRIGATION
SHASTA COUNTY

GENERAL INFORMATION

The State of California, Department of Transportation, (hereafter User) intends to use 11.7 million gallons per year of recycled water from the City of Shasta Lake's wastewater treatment facility for landscape irrigation of Interstate 5 from Mile Post R21.0 to R22.4 in Section 6, T32N, R4W and Sections 29 and 32, T33N, R4W, MDB&M. Surface water drainage from the site is to Moody Creek and Salt Creek, tributary to Stillwater Creek and Churn Creek, respectively, both of which are tributary to the Sacramento River.

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TITLE 22 RECYCLED WATER CRITERIA

The Department of Health Services (DHS) has established statewide recycling water criteria effective 2 December 2000 in Chapter 3, Division 4, Title 22, California Code of Regulations (CCR), Section 60301 et seq. (hereafter Title 22) for the use of recycled water.

Title 22, Section 60304(c) states that recycled water used for irrigation of freeway landscaping shall be "...at least disinfected secondary-23 recycled water".

Title 22 contains the following definitions:

Disinfected Secondary-23 Recycled Water Section 60301.225 defines Disinfected Secondary-23 Recycled Water as "... recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analysis have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30 day period."

Oxidized Wastewater Section 60301.650 defines oxidized wastewater as "... wastewater in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen."

BASIS FOR RECYCLING CONDITIONS

The effluent limits, prohibitions, and specifications in these Recycling Requirements require the use of recycled water that has been treated to a standard of “Disinfected Secondary-23 Recycled Water” as defined above.

Discharge Prohibitions

The requirements prohibit the discharge of recycled water to surface waters or surface water drainage courses by direct or indirect discharge or windblown spray and prohibit application of recycled water beyond the boundaries of the landscape area.

Recycled Water Limitations

The limits for total coliform bacteria of 23 MPN per 100 ml, and 240 MPN per 100 ml in more than one sample in any 30-day period, are the limits specified in Title 22 for Disinfected Secondary-23 Recycled Water. These limits are required because of the proposed use of recycled water for freeway landscape irrigation.

Recycled Water Specifications

The Recycled Water Specifications limit the areas where recycled water will be used and the use of recycled water as specified in Title 22.

Monitoring and Reporting

The effluent analyses required in the monitoring and reporting section of these requirements are also required in the Monitoring and Reporting Program for the City of Shasta Lake Wastewater Treatment Plant. This monitoring may be submitted by the staff of the Shasta Lake WWTP and can serve as the monitoring report for these requirements.

NAR:

29 April 2005

