

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF DECEMBER 3, 2004

Prepared October 20, 2004

ITEM: 19

SUBJECT: Revision of Waste Discharge and Water Recycling Requirements, Fiero Lane Water Company, San Luis Obispo County, Order No. R3-2004-0154

KEY INFORMATION

Discharger:	Fiero Lane Water Company
Location:	Fiero Lane, off Highway 227 south of San Luis Obispo, near the San Luis Obispo County Airport
Type of Waste:	Domestic wastewater
Design Capacity:	Existing – 15,000 gallons per day (gpd) Proposed – 25,000 gpd
Treatment/Disposal:	Existing – secondary treatment Proposed – secondary and tertiary treatment
Disposal/Recycling	Existing – subsurface disposal and recycling for dust control and soil compaction at construction sites Proposed – recycling for spray irrigation of landscaping
Existing Orders:	Waste Discharge/Water Reclamation Requirements Order No. R3-2003-039

SUMMARY

Fiero Lane Water Company has requested permission to: expand their secondary treatment facility capacity from 15,000 gpd capacity to 25,000 gpd to serve the planned Morabito-Burke commercial development; add a tertiary treatment process at these developments to recycle a portion of the secondary-treated wastewater flow; and allow spray irrigation of landscaping with recycled water at the Morabito-Burke and Senn-Glick commercial developments. Proposed Order No. 2004-0154 regulates the proposed discharge and includes effluent limitations and use specifications for both Secondary-23 and Tertiary-2.2 recycled water. The requirements are taken directly from Title 22 of the California Code of Regulations, in consultation with California Department of Health Services.

DISCUSSION

Fiero Lane Water Company (hereafter Discharger or Producer) owns and operates a wastewater treatment and disposal facility located on Fiero Lane, just outside the southern limits of the City of San Luis Obispo. The facility serves several existing and planned commercial developments in the unincorporated area surrounding the facility.

Existing Facilities

The existing secondary treatment facility is a 15,000 gpd capacity Tipton extended aeration package treatment plant with chlorine disinfection. Approximately 7,000 gpd is currently treated and disposed to three areas: (1) Disposal Area No. 1, a 2.0 acre subsurface drip irrigation system, (2) Disposal Area No. 2, a 0.5 acre area that will be used in the future for irrigation and/or subsurface disposal; and (3) a 1.2 million gallon lined storage pond. Treated and disinfected wastewater is periodically taken from the storage pond by tanker

truck and reused for soil compaction and dust control at local construction sites.

Proposed Facilities

Domestic wastewater from the planned Morabito-Burke and Senn-Glick commercial developments will be transmitted approximately 0.5 mile northwest along Highway 227 to the existing treatment facility. A second Tipton extended aeration package plant will be added to increase the capacity of the secondary treatment process to 25,000 gpd. A portion of the secondary treated wastewater flow will be transmitted by force main back to the Morabito-Burke development, where it will undergo tertiary treatment. Tertiary treatment will include coagulation, a Westech Technasand Upflow Sand Filter or equivalent, and chlorine disinfection. The tertiary treatment process is designed to produce at least 13,000 gpd of Title 22 Tertiary 2.2 quality recycled water. Recycled water will be used to spray irrigate approximately 32.5 acres of landscaping at the Morabito-Burke and Senn-Glick developments. The recycled water system will include a 2.76 acre-foot lined storage pond with 90-days of storage capacity for periods of wet weather. The location of these facilities and recycled water use areas is shown in Attachment B of the proposed Order. A treatment process flow diagram is shown in Attachment C.

The Morabito-Burke and Senn-Glick gravity collection systems will be designed according to City of San Luis Obispo specifications to facilitate future annexation and connection to the City's wastewater system.

Environmental Setting

All disposal and recycled water areas are located on nearly level topography consisting of silty clay soils with poor percolation. Depth to groundwater is 10 to 20 feet in the vicinity of the Disposal Area No. 1, 15 to 25 feet in the vicinity of Disposal Area No. 2, and approximately 15 feet at the recycled water use area.

The Discharger's water supply is groundwater from onsite wells (Nos. 1, 2, 3, and 4) as shown on Attachment B. The nearest surface water body to this discharge is the East branch of the San Luis Obispo Creek, approximately 700 feet to the north of Disposal Area No. 2.

Compliance History

Prior to 2001, the Discharger utilized a conventional leachfield for disposal. Staff noted effluent surfacing in the leachfield during inspections in 1994. Several Notice of Violation letters were issued throughout the 1990s for effluent spills or surfacing. In mid-2000, the Discharger contracted operations to John Wallace and Associates (now known as Fluid Resource Management). Several deficiencies were corrected. However, in the winter of 2000-2001, effluent intermittently saturated and ponded in the leachfield. Several interim repairs were made without success. In order to avoid violating Waste Discharge Requirements Order No. 89-16, raw wastewater was regularly trucked to nearby municipal facilities to reduce wastewater loading to the leachfield. In 2001, the leachfield system was replaced with a subsurface drip system, which relies primarily on evapotranspiration rather than percolation. The subsurface drip system is dosed at agronomic rates, which has reduced burden on the land and provides a more reliable disposal system. Since then, a 1.7 million gallon lined storage pond has been added to store effluent from the secondary treatment process for recycling. This additional disposal option has greatly decreased the Discharger's reliance on their subsurface disposal areas. No significant problems or violations have been noted since.

Proposed Requirements

The existing Waste Discharge/Water Reclamation Requirements evolved from simple requirements for the original subsurface disposal system to include provisions for limited recycling for soil compaction and dust control at construction sites. Proposed Waste Discharge and Water Recycling Requirements (WRRs) Order No. R3-2004-0154 includes both Secondary-23 and Tertiary-2.2 recycled water production and use requirements for unrestricted spray irrigation. The WRRs are based on the Central Coast Basin Plan, Title 22 of the California Code of Regulations (recycled water regulations), California Department of Health Services' (DHS) conditions of approval of the discharger's proposed treatment technology, and staff's best professional judgment. The WRRs were developed in close consultation with DHS staff.

Monitoring and Reporting Program (MRP) No. R3-2004-0154 is a part of the proposed Order. The MRP requires routine monitoring of water supply (which is representative of groundwater downgradient of the disposal areas), influent, secondary treatment process effluent, tertiary treatment process effluent, disposal areas, and recycled water use areas to verify compliance with the proposed Order and protection of water quality.

The following table specifies changes proposed in Waste Discharge and Water Recycling Requirements Order No. R3-2004-0154.

Change	Section	Rationale
1. The secondary treatment process effluent flow limitation is increased from 15,000 gpd to 25,000 gpd.	WRR Section B.1	Discharger will be expanding the secondary treatment process capacity to 25,000 gpd to accommodate additional wastewater flows from the planned Morabito-Burke development.
2. The "effluent discharged to the subsurface disposal area" Suspended Solids Monthly Mean/Maximum limitations of 30/50 mg/L are eliminated. The existing recycled water Suspended Solids effluent Monthly Mean/Maximum limitations of 10/30 mg/L will now apply to all secondary treatment process effluent.	WRR Section B.2	Most secondary treatment process effluent will now be used as Secondary-23 recycled water or will be sent to the tertiary treatment process. The lower limitations will ensure proper performance of the tertiary filtration process and will extend the useful life of the subsurface disposal areas. Effluent monitoring data indicates the secondary treatment process is capable of meeting this requirement.
3. The BOD effluent limitation is eliminated.	WRR Section B.2	BOD is not a constituent of concern for recycled water discharges to land. Total Suspended Solids is a more appropriate measurement of recycled water quality.
4. A secondary treatment process effluent monthly average turbidity limitation of 10 NTU is added.	WRR Section B.2	DHS requires secondary effluent turbidity of less than 10 NTU where upflow sand filters are part of the tertiary treatment process. Effluent monitoring data indicates the secondary treatment process is capable of meeting this requirement.
5. The required lead time to notify the Executive Officer of planned Secondary-23 recycled water use is decreased from 30 days to 14 days.	WRR Section C.2	The 30-day notification requirement effectively prevented appropriate recycled water uses from occurring. Fourteen days is adequate for Regional Board staff to review the proposal and respond if necessary.
6. Tertiary-2.2 Effluent Limitations are added, including:	WRR Section D	Title 22 requires tertiary treatment process effluent to meet these limitations

Change	Section	Rationale
<p>“Tertiary treatment process effluent turbidity shall not exceed an average of 2 NTU within a 24-hour period; 5 NTU more than 5 percent of the time within a 24-hour period; or 10 NTU at any time.”</p> <p>“The median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed 2.2 MPN per 100 mL, utilizing the bacteriological results of the last seven days for which analyses have been completed. Total coliform bacteria shall not exceed 23 MPN per 100 mL in more than one sample in any 30-day period. No total coliform bacteria sample shall exceed 240 MPN per 100 mL.”</p>		to be considered Tertiary-2.2 recycled water. The turbidity and total coliform bacteria limitations ensure the recycled water is safe enough for spray irrigation where human contact is likely to occur.
<p>7. Several Tertiary-2.2 Recycled Water Use Specifications are added. Examples include:</p> <p>“Recycled water shall not be used for irrigation during periods of extended rainfall and/or runoff.</p> <p>Recycled water shall not be applied, or impounded, within 50 feet of any domestic water supply well.”</p>	WRR Section E	These Use Specifications are taken directly from the Use Area Requirements of Title 22. They’re intended to minimize potential for public contact with recycled water.
<p>8. Several Design and Operation Specifications are added. Examples include:</p> <p>“New gravity collection system mains, secondary treated wastewater force mains, and recycled water distribution mains shall be metal-taped to allow them to be easily located from the surface prior to future excavations near the pipeline corridors.”</p> <p>“The tertiary treatment facilities shall include coagulant addition ahead of the filter; with adequate detention following coagulant addition to ensure that flocculation occurs prior to filtration.”</p>	WRR Section F	<p>These specifications are intended to ensure proper design and operation of the wastewater collection and treatment facilities. The first example is added because several developments are planned or proposed in this area that will likely excavate into the pipeline corridors. This measure is necessary to ensure the pipeline locations are easily identifiable from the surface, to minimize potential for damage to the pipelines.</p> <p>The second example specification, and those which are specific to the operation of the tertiary treatment process, are taken from DHS’ April 2002 conditions of approval of the Westech Technasand Upflow Filter.</p>
<p>9. The required level of State Certified Operator is increased from Grade I to Grade III.</p>	WRR Section F.8	California’s Wastewater Treatment Operator and Contract Operator Regulations require operation of tertiary facilities less than 1.0 million gpd to be overseen by a Grade III operator.
<p>10. The following special provision is added:</p> <p>“Discharger shall submit an engineering</p>	WRR Section H.1	Title 22 requires water recycling facilities to include extensive alarming and reliability features. An engineering report

Change	Section	Rationale
report by December 3, 2005 that demonstrates facility compliance with General Requirements of Design and Reliability Requirements, as found in Title 22, Division 4, Chapter 3, Articles 8 and 10, of the California Code of Regulations.”		is necessary to document facility compliance with these requirements.
11. The following special provision is added: “Discharger shall submit written verification, including acknowledgment from the City of San Luis Obispo, that the new gravity collection systems for the Morabito-Burke and Senn-Glick developments are designed according to City of San Luis Obispo specifications, at least 30 days prior to commencement of construction of the collection systems. ”	WRR Section H.3	Regional Board staff has long encouraged annexation of the Fiero Lane area to the City of San Luis Obispo. However, annexation has not occurred, partly because the Fiero Lane wastewater collection system does not meet City standards. This provision is necessary to ensure the collection system will not inhibit annexation of the Morabito-Burke and Senn-Glick developments.
12. Tertiary process effluent monitoring for flow, Total Coliform Organisms, Total Chlorine Residual, pH, CT Value, Total Dissolved Solids, Sodium, Chloride, and Total Nitrogen is added.	MRP Section D	Such monitoring is necessary to monitor compliance with tertiary process effluent limitations, assess performance of the tertiary treatment process, and monitor pollutant loading to recycled water use areas.
13. Recycled Water Use Area Monitoring requirements are added. The Discharger will be required to inspect the use areas no less frequently than monthly and record observations in a logbook, which must be made available to the Executive Officer upon request. The Discharger must also work with DHS and County of San Luis Obispo Environmental Health Services to ensure backflow prevention devices are properly installed and operational. Recycled waster usage must be monitored and any unusual changes in usage must be investigated.	MRP Section F	Such monitoring is necessary to measure compliance with Recycled Water Use Specifications.
14. Several reporting provisions from the Standard Provisions are promoted into the body of the Monitoring and Reporting Program.	MRP Section H	To ensure reporting procedures are appropriate and improve determinations of compliance.
15. Several Sewage Spill Reporting Provisions are added.	MRP Section I	To emphasize and clarify sewage spill reporting requirements.

ENVIRONMENTAL SUMMARY

Waste Discharge and Water Recycling Requirements for this discharge are exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et. seq.), in accordance with Section 13389 of the California Water Code.

COMMENTS

The following parties were sent a copy of the Draft Order and invited to submit written comments on September 20, 2004. Written comments were due by October 20, 2004. No parties submitted comments.

- Fiero Lane Water Company, c/o Rob Miller
- County of San Luis Obispo Environmental Health Dept.
- County of San Luis Obispo Dept. of Public Works
- County of San Luis Obispo Local Agency Formation Committee
- California Dept. of Health Services

Rob Miller of Fiero Lane Water Company verbally requested minor editorial changes that are reflected in the Order.

RECOMMENDATION

Staff recommends adoption of Waste Discharge and Water Recycling Requirements Order No. R3-2004-0154.

ATTACHMENT

1. Waste Discharge and Water Recycling Requirements Order No. R3-2004-0154.
2. Monitoring and Reporting Program No. R3-2004-0154.