CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2009-0103
FOR
CITY OF WOODLAKE
WASTEWATER TREATMENT FACILITY
TULARE COUNTY

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

1. Waste Discharge Requirements (WDRs) Order No. 5-01-076, adopted by the Central Valley Water Board on 27 April 2001, for the City of Woodlake (hereafter City or Discharger) and Sentinel Butte Water Company, regulates the City's wastewater treatment facility (WWTF) located in the southeast quarter of Section 36, Township T17S, Range R26E, MDB&M, and less than a mile south of the City of Woodlake in Tulare County.

2. WDRs Order No. 5-01-076 authorizes a discharge of 1.0 million gallons per day (mgd) of undisinfected secondary treated wastewater to four percolation ponds and one emergency pond.

3. The WWTF is on property owned by the City. The City historically has supplied WWTF effluent for reclamation on 35 acres of farmland (Assessor's Parcel Number 060-160-016) (Reclamation Area) owned by Sentinel Butte Water Company, a California Corporation. The recycling of WWTF effluent on the Reclamation Area is regulated by Water Reclamation Requirements (WRRs) Order No. 01-082, which names the City of Woodlake as the producer and Sentinel Butte Water Company as the user of reclaimed water.

4. The WWTF is also regulated by Cease and Desist Order (CDO) No. 5-01-077, which addresses effluent Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) exceedances.

5. In July 2008, the Discharger submitted a Report of Waste Discharge (RWD) for a proposed WWTF upgrade. The RWD indicates that the peak daily flow and peak monthly flow will be approximately 1.87 mgd and 1.38 mgd, respectively, for Phase One and about 2.52 mgd and 1.92 mgd, respectively, for Phase Two.

6. WDRs Order No. 5-01-076 needs to be updated to ensure that the discharge is consistent with Central Valley Water Board plans and policies and prescribe requirements that reflect changes the Discharger has made to its WWTF operation.

Wastewater Treatment Facility

7. The existing WWTF consists of headworks, two bentonite-lined aerated lagoons, four percolation ponds with an approximate total area of 9.6 acres, and one emergency pond (approximately 5.6 acres).

8. For Phase One, the Discharger proposes to construct a new headworks that will include one manual bar screen and one mechanical bar screen, and a new magnetic flow meter. There will be two treatment trains running in parallel. Each treatment train will consist of one 0.60-million-gallon (MG) oxidation ditch, and one 0.20-MG anoxic basin to remove BOD and nitrogen, and one 55-foot-diameter secondary clarifier. The existing aerated lagoons will be converted to asphalt-lined sludge drying beds and two new percolation ponds will be constructed. A schematic plan of the WWTF is shown on Attachment A and a process flow schematic is shown on Attachment B. Both of these are attached hereto and made part of this Order by reference.

9. In Phase Two, the Discharger is proposing to install a third treatment train that will run in parallel with the treatment trains in Phase One. The third treatment train will include an additional oxidation ditch and anoxic basin, which will be the same size as the others. An additional 55-foot-diameter secondary clarifier and one additional asphalt-lined sludge drying bed will constructed as well.

10. Self-Monitoring data from January 2007 through December 2008 contained in the Discharger's Self-Monitoring Reports (SMRs) characterize the discharge as follows:

Constituent/Parameter	Units	Influent	Effluent
Specific Conductance (EC)	µmhos/cm	---	431
BOD	mg/L	84	29
TSS	mg/L	98	59
Settleable Solids	mL/L	4	<1
pH	pH units	10.8	8.1
Total Dissolved Solids (TDS)	mg/L	---	407
Total Kjeldahl Nitrogen (TKN)	mg/L	---	10
Nitrate-Nitrogen (NO_3-N)	mg/L	---	7.3
Total Nitrogen (TN)	mg/L	---	16

11. Current data shows low influent BOD and TSS concentrations. This is likely not representative of the wastewater at the WWTF but a result of collecting grab samples of the influent rather than composite samples. According to the RWD, the consultant designed the upgraded WWTF based on influent BOD and TSS concentrations of 240 and 270 mg/L, respectively.

12. According to the RWD, the proposed WWTF will produce an effluent that will meet average BOD and TSS concentrations of 40 mg/L, and an average Total Nitrogen concentration of less than 10 mg/L.

Sanitary Sewer Overflows

13. 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 treatment facility. Temporary storage and 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.

14. On 2 May 2006, the State Water Resources Control Board (hereafter State Water Board) adopted General Sanitary Sewer Order (State Water Board Water Quality Order No. 2006-0003-DWQ, "General Waste Discharge Requirements for Sanitary Sewer Systems"). The General Order requires all public agencies that own or operate sanitary sewer systems greater than one mile in length to comply with this order. The Discharger's collection system is greater than one mile in length; therefore, the Discharger applied for, and is covered by, the General Order.

Site-Specific Conditions

15. The WWTF and Reclamation Area are in a semi-arid climate characterized by hot, dry summers and cool winters. The rainy season generally extends from November through April. Occasional rains occur during spring and fall months, but summer months are dry. Average annual precipitation and evaporation are about 14 and 62 inches, respectively, according to information published by the California Department of Water Resources (DWR).

16. Soils in the vicinity of the WWTF are predominately Tujunga Sand, San Emigdio Loam, and San Joaquin Loam, according to the Web Soil Survey published by the United States Department of Agriculture Natural Resources Conservation Service. Tujunga Sand, San Emigdio Loam, and San Joaquin Loam have been assigned land capacity classification of 3s, 1, and 3e, respectively. These soils have limitations that range from slight to severe and restrict their use and choice of plants or that require special conservation practices. These soils also have a hazard of erosion unless close-growing plant cover is maintained. The susceptibility to erosion and past erosion damage is the major soil-related factors affecting these types of soils.

17. According to the Federal Emergency Management Agency maps (map number 06107C0688E) the WWTF is located in Zone A, with a 1% annual chance of flooding and a 26% chance of flooding over a 30-year time period.

18. The Discharger is not required to obtain coverage under a National Pollutant Discharge Elimination System general industrial storm water permit for the WWTF because all storm water runoff is retained onsite and does not discharge to a water of the United States.

Groundwater Considerations

19. Three groundwater monitoring wells (MW-1 through MW-3) were installed in October 2000 near the WWTF. After the groundwater monitoring wells were installed, Central Valley Water Board staff determined the groundwater monitoring well network was inadequate because the wells were monitoring two different groundwater zones. The Discharger did not submit analytical data and never initiated groundwater monitoring. Background quality of first-encountered groundwater beneath the WWTF and disposal area has not been determined.

20. The Discharger submitted a Work Plan dated June 2007 for the installation of an upgraded groundwater monitoring network. The Work Plan proposes to use two of the existing groundwater monitoring wells (MW-2 and MW-3) along with three new wells. If, after the installation of the new wells, MW-2 and MW-3 are not similar and the direction of groundwater cannot be determined from these wells, an additional well will need to be installed.

21. The straight (i.e., not flow-weighted) average source water EC and TDS concentrations based on data contained in the Discharger's SMRs are approximately 385 µmhos/cm and 265 mg/L, respectively. The EC and TDS concentrations from the City of Woodlake's 2007 Annual Drinking Water Quality Report were reported as 326 µmhos/cm and 238 mg/L, respectively.

Basin Plan, Beneficial Uses, and Water Quality Objectives

22. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, revised January 2004* (hereafter Basin Plan) designates beneficial uses, establishes narrative and numerical water quality objectives, contains implementation plans and policies for protecting all waters of the Basin, and incorporates, by reference, plans and policies of the State Water Board. Pursuant to Section 13263(a) of the California Water Code (CWC), these requirements implement the Basin Plan.

23. Water in the Tulare Lake Basin is in short supply, requiring importation of surface water from other parts of the State. The Basin Plan encourages recycling on irrigated crops wherever feasible and indicates that evaporation of recyclable wastewater is not an acceptable permanent disposal method where the opportunity exists to replace an existing use or proposed use of fresh water with recycled water.

24. The WWTF is in Detailed Analysis Unit (DAU) No. 242 within the Kaweah Basin hydrologic unit. The Basin Plan identifies the beneficial uses of groundwater in this DAU as municipal and domestic supply, agricultural supply, industrial service and process supply, water contact recreation, and non-contact water recreation.

25. The Basin Plan includes a water quality objective for chemical constituents that, at a minimum, require waters designated as domestic or municipal supply to meet the maximum contaminant levels (MCLs) specified in Title 22 of the California Code of Regulations (CCR). The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

26. The Basin Plan establishes narrative water quality objectives for Chemical Constituents, Taste and Odors, and Toxicity. The Toxicity objective, in summary, requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial uses. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses.

27. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-tern solution to the salt imbalance. Until then, the Basin Plan establishes several salt management requirements, including:

    a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum EC shall not exceed the EC of the source water plus 500 µmhos/cm. When the source water is from more than one source, the EC shall be a weighted average of all sources.

    b. Discharges to areas that may recharge good quality groundwater shall not exceed an EC of 1,000 µmhos/cm, a chloride content of 175 mg/L, or boron content of 1.0 mg/L.

    These effluent limits are considered best practicable treatment or control (BPTC).

28. The Basin Plan requires municipal WWTFs that discharge to land to comply with treatment performance standards for BOD and TSS. WWTFs that preclude public access and are greater than 1 mgd must provide removal of 80 percent or reduction to 40 mg/L, whichever is more restrictive, for both BOD and TSS.

Antidegradation Analysis

29. State Water Board Resolution No. 68-16 ("Policy with Respect to Maintaining High Quality Water of the State") prohibits degradation of groundwater unless it has been shown that:

    a. The degradation is consistent with the maximum benefits to the people of the State;

    b. The degradation will not unreasonable affect present and anticipated future beneficial uses;

    c. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives, and

    d. The Discharger employs BPTC to minimize degradation.

30. Degradation of groundwater by some of the typical waste constituents released with discharge from a municipal wastewater utility after effective source control, treatment, and control is consistent with maximum benefit to the people of the State. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impacts on water quality will be substantially less. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and therefore sufficient reason to accommodate growth and groundwater degradation provided terms of the Basin Plan are met.

31. Constituents of concern in the discharge that have the potential to degrade groundwater include salts and nutrients. This Order establishes terms and conditions of discharge to ensure that the discharge does not unreasonably affect present and anticipated uses of groundwater and includes groundwater limitations that apply water quality objectives established in the Basin Plan to protect beneficial uses. The discharge will likely not impair the beneficial uses of groundwater because:

    a. For Salinity, the Basin Plan contains effluent limits of EC of source water plus 500µmhos/cm and 1,000 µmhos/cm maximum for discharges to area that may recharge to good quality groundwater. These limits considered the antidegradation policy when adopted. The current discharge meets the source water plus 500 µmhos/cm limit, and is also less than the lowest numerical limit to protect the most sensitive agricultural use (700 µmhos/cm).

    b. For nitrogen, the upgraded WWTF will treat to less than 10 mg/L. Therefore, any degradation that may occur from the discharge would not exceed a Water Quality Objective nor impair a Beneficial Use.

Treatment and Control Practices

32. The WWTF described in Finding Nos. 7 through 12, will provide treatment and control of the discharge that incorporates:

    a. secondary treatment, including nitrogen reduction;

    b. appropriate biosolids handling and treatment for reuse;

    c. an operation and maintenance (O&M) manual;

    d. certified operators to ensure proper operation and maintenance; and

    e. discharge and groundwater monitoring

Water Recycling Criteria

33. Domestic wastewater contains pathogens harmful to humans that are typically measured by means of total or fecal coliform, as indicator organisms. The California Department of Public Health (DPH), which has primary statewide responsibility for protecting public health, has established statewide criteria in Title 22, CCR, Section 60301 et seq. (hereafter Title 22) for the use of recycled water and has developed guidelines for specific uses.

34. A 1988 Memorandum of Agreement (MOA) between DPH and State Water Board on the use of recycled water establishes basic principles relative to the agencies and the regional water boards. In addition, the MOA allocates primary areas of responsibility and authority between these agencies, and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to the use of recycled water in California.

35. State Water Board Resolution No. 77-1 (“Policy with Respect to Water Recycling 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 recycled water is of primary interest to the people of the State in meeting future water needs.

36. The Basin Plan encourages recycling on irrigated crops wherever feasible and indicates that evaporation of recyclable wastewater is not an acceptable permanent disposal method where the opportunity exists to replace an existing use or proposed use of fresh water with recycled water. The Basin Plan also requires project reports for new or expanded wastewater facilities shall include plans for wastewater recycling or the reasons why this is not possible.

37. Title 22, Section 60323 requires recyclers of treated municipal wastewater to submit an engineering report detailing the use of recycled water, contingency plans, and safeguards. A Title 22 Engineering Report dated August 2001 was submitted by Quad Knopf, Inc., on behalf of the Discharger.

Other Regulatory Considerations

38. The United States Environmental Protection Agency (EPA) has promulgated biosolids reuse regulations in Title 40, Code of Federal Regulations, Part 503, Standards for the Use or Disposal of Sewage Sludge, which establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to EPA.

39. As the discharge consists of treated domestic sewage and incidental discharges from treatment and storage facilities associated with a domestic wastewater treatment plant, and as these discharges are regulated by waste discharge requirements consistent with applicable water quality objectives, the WWTF and its discharge is exempt from containment pursuant to Title 27, section 20090(a).

CEQA

40. A Final Environmental Impact Report (FEIR), State Clearinghouse Number 2009041134, dated June 2009 was adopted by the City of Woodlake for the proposed WWTF upgrade to an ultimate design flow of 1.8 mgd.

41. Central Valley Water Board staff reviewed the FEIR and concurred with the conclusion that the project would be an improvement over the existing discharge and that the discharge would not have a significant impact on water quality. This Order includes effluent limits for salinity, BOD, TSS, and total nitrogen. Compliance with these limits will mitigate any significant impacts to water quality.

General Findings

42. Pursuant to CWC Section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

43. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

44. CWC Section 13267(b) states that: “In conducting an investigation specified in subdivision (a), the Central Valley Water Board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political

agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Central Valley Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the Central Valley Water Board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."

45. The technical reports required by this Order and monitoring reports required by the attached Monitoring and Reporting Program (MRP) No. R5-2009-0103 are necessary to assure compliance with these waste discharge requirements. The Discharger operates the WWTF that discharges the waste subject to this Order.

46. The DWR set standards for the construction and destruction of groundwater wells, as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 94-81 (December 1981). These standards, and any more stringent standards adopted by the State or county pursuant to CWC Section13801, apply to all monitoring wells.

Public Notice

47. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.

48. The Discharger and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

49. All comments pertaining to the discharge were heard and considered in a public meeting.

IT IS HEREBY ORDERED that Waste Discharge Requirements Order No. 5-01-076 is rescinded and that, pursuant to Sections 13263 and 13267 of the California Water Code, the City of Woodlake and its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, shall comply with the following:

A. Prohibitions

1. Discharge of waste to surface waters or surface water drainage courses is prohibited.

2. Bypass or overflow of untreated wastes, except as allowed by *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991, E.2 is prohibited.

3. Discharge of waste classified as 'hazardous', as defined in Section 2521(a) of Title 23, CCR, Section 2510 et seq., is prohibited. Discharge of waste classified as 'designated', as defined in CWC Section 13173, in a manner that causes violation of groundwater limitations, is prohibited.

B. Effluent Limitations

1. The discharge shall not exceed the following limitations:

Constituent	Units	Monthly Average	Daily Maximum
BOD_5[1]	mg/L	40	80
TSS[2]	mg/L	40	80
Chloride	mg/L	175	---

[1] Five-day biochemical oxygen demand (BOD_5)
[2] Total suspended solids (TSS)

The arithmetic mean of BOD_5 and TSS in effluent samples collected over a monthly period shall not exceed 20 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (80 percent removal).

2. The 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 µmhos/cm. Compliance with this effluent limitation shall be determined monthly.

3. After the expansion of the WWTF is complete and Provision 19 has been satisfied, the Total Nitrogen of the discharge shall not exceed a monthly average of 10 mg/L unless Provision 22 is satisfied.

C. Discharge Specifications

1. The monthly average discharge flow shall not exceed:

   a. 1.0 mgd until Provision 19 is satisfied.

   b. 1.38 mgd after Provision 19 has been satisfied.

   c. 1.92 mgd after Provision 20 has been satisfied.

2. All conveyance, treatment, storage, and disposal units shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

3. Public contact with effluent (treatment works, ponds) shall be precluded through such means as fences, signs (in accordance with Title 22, CCR Section 60310(g)), or acceptable alternatives.

4. Objectionable odors shall not be perceivable beyond the limits of the WWTF property at an intensity that creates or threatens to create nuisance conditions.

5. Effluent storage ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the winter. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

6. On or about **1 October** of each year, available disposal pond storage capacity shall at least equal the volume necessary to comply with Discharge Specification C.5.

7. Ponds shall be managed to prevent breeding of mosquitoes. In particular,

   a. An erosion control plan should assure that coves and irregularities are not created around the perimeter of the water surface.

   b. Weeds shall be minimized through control of water depth, harvesting, and herbicides.

   c. Dead algae, vegetation and other debris shall not accumulate on the water surface.

   d. Vegetation management operations in areas in which nesting birds have been observed shall be carried out either before or after, but not during, the 1 April to 30 June bird nesting season.

8. 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 groundwater limitations.

D. Sludge Specifications

Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advance wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the WWTF. Biosolids refers

to sludge that has undergone sufficient treatment and testing to quality for reuse pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation.

1. Sludge and solid waste shall be removed from screens, sumps, aeration basins, ponds, clarifiers, etc. as needed to ensure optimal plant operation.

2. Treatment and storage of sludge generated by the WWTF shall be confined to the WWTF property.

3. Any handling and storage of residual sludge, solid waste, and biosolids on property of the WWTF shall be temporary (i.e., no longer than two years) and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitation of this Order.

4. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements will satisfy this specification.

5. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a Regional Water Board or the State Water Board or a local (e.g., county) program authorized by a Regional Water Board. In most cases, this means the General Biosolids Order (State Water Board Water Quality Order No. 2004-12-DWQ, “General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities”). For a biosolids use project to be authorized by the General Biosolids Order, the Discharger must file a complete Notice of Applicability for each project.

6. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

E. Groundwater Limitations

1. Release of waste constituents from any treatment or storage component associated with the discharge shall not cause or contribute to groundwater:

   a. Containing constituent concentrations in excess of the concentrations specified below or natural background quality whichever is greater:

      (i) Nitrate as nitrogen of 10 mg/L.

(ii) Total Coliform Organisms of 2.2 MPN/100 mL.

(iii) For constituents identified in Title 22, the MCLs quantified therein.

b. Containing taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

F. Provisions

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements,* dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as Standard Provision(s).

2. The Discharger shall comply with MRP No.R5-2009-0103, which is part of this Order, and any revisions thereto as adopted by the Central Valley Water Board or approved by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal dates specified in the MRP.

3. The Discharger shall keep at the WWTF a copy of this Order, including its MRP, Information Sheet, attachments, and Standard Provisions, for reference by operating personnel. Key operating personnel shall be familiar with its contents.

4. The Discharger shall not allow pollutant-free wastewater to be discharged into the WWTF collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means storm water (i.e., inflow), groundwater (i.e., infiltration), cooling waters, and condensates that are essentially free of pollutants.

5. The Discharger must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This Provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger only when the operation is necessary to achieve compliance with the conditions of this Order.

6. All technical reports and work plans required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code Sections 6735, 7835, and 7835.1. To demonstrate compliance

with Sections 415 and 3065 of Title 16, CCR, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports and work plans must bear the signature(s) and seal(s) of the registered professionals(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

7. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Accordingly, the Discharger shall submit to the Central Valley Water Board on or before each report due date the specified document or, if an action is specified, a written report detailing evidence of compliance with the date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

8. In the event of any change in control or ownership of land or waste treatment and storage facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

9. 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, the address and telephone number of the persons responsible for contact with the Central Valley Water Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 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. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

10. As a means of discerning compliance with Discharge Specifications C.4, the dissolved oxygen (DO) content in the upper one foot of any wastewater pond shall not be less than 1.0 mg/L for three consecutive days. Should the DO be below 1.0 mg/L during a weekly sampling event, the Discharger shall take all reasonable steps to correct the problem and commence daily DO monitoring in the affected ponds until the problem has been resolved. If unpleasant odors originating from affected ponds are noticed in developed areas, or if the Discharger received one or more odor complaints, the Discharger shall report the findings in writing within 5 days of the date and shall

include a specific plan to resolve the low DO results to the Central Valley Water Board within 10 days of that date.

11. The pH of the discharge shall not be less than 6.5 or greater than 8.5 pH units for more than three consecutive sampling events. In the event that the pH of the discharge is outside of this range for more than three consecutive sampling events, the Discharger shall submit a technical evaluation in its monthly SMRs documenting the pH of the discharge to the ponds or reclamation area, and if necessary demonstrate that the effect of the discharge on soil pH will not exceed the buffering capacity of the soil profile.

12. The Discharger shall maintain and operate all ponds sufficient to protect the integrity of containment levees and prevent overtopping or overflows. Unless a California civil engineer certifies (based on design, construction, and condition of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically). As a means of management and to discern compliance with this Provision, the Discharger shall install and maintain in each pond permanent markers with calibration that indicates the water level at design capacity and enables determination of available operational freeboard.

13. The Discharger shall submit the technical reports and work plans required by this Order for Central Valley Water Board staff consideration and incorporate comments they may have in a timely manner, as appropriate. The Discharger shall proceed with all work required by the following provisions by the due dates specified.

14. The Discharger shall obtain coverage under, and comply with, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ.

15. The Discharger shall evaluate land disposal options and conduct studies to promote new or expanded wastewater recycling and reclamation opportunities. If the studies show that year-round or continuous reuse of all the wastewater is not practicable, consideration must be given to partial reuse of the flow and seasonal reuse. **By 1 January 2010,** and periodically thereafter (but not less than once every five years) the Discharger shall document its efforts to promote new or expanded wastewater recycling and reclamation opportunities.

16. **By 1 June 2010,** the Discharger shall complete the installation of proposed groundwater monitoring wells in accordance with the Work Plan described in Finding No. 20, and commence groundwater monitoring in accordance with the Monitoring and Reporting Program No. R5-2009-0103.

17. **By 1 July 2010,** the Discharger shall submit a monitoring well installation report that meets the requirements of Attachment C, which is attached hereto and made part of this Order by reference.

18. **By 1 January 2010,** the Discharger shall submit a technical report describing a work plan and time schedule for the construction of berms, or other engineering controls, that will prevent inundation of the WWTF during a 100-year event.

19. Upon completion of the proposed Phase I WWTF expansion work as described in Finding No. 8, the Discharger shall submit engineering certification that the Phase 1 work has been completed as designed and that the WWTF has sufficient treatment, storage, and disposal capacity to comply with the other terms and conditions of this Order. This provision will be considered satisfied following written acknowledgement from the Executive Officer that the criteria have been met.

20. Upon completion of the proposed Phase II expansion work as described in Finding No. 9, the Discharger shall submit engineering certification that the Phase 2 work has been completed as designed and that the WWTF has sufficient treatment, storage, and disposal capacity to comply with the other terms and conditions of this Order. This provision will be considered satisfied following written acknowledgement from the Executive Officer that the criteria has been met.

21. **By 1 January 2010,** the Discharger shall submit a technical report containing final design report and performance demonstration of the lined sludge drying beds. The performance demonstration shall include permeability of the constructed liner.

22. **One year after the completion of the WWTF and no later than 1 January 2013,** the Discharger shall comply with the Effluent Nitrogen Limitation (Effluent Limitation B.4), or alternatively, the Discharger shall submit a technical report demonstrating that soils underlying effluent storage ponds have sufficient capacity to attenuate nitrogen to levels that will not cause underlying groundwater to contain nitrate in concentrations exceeding 10 mg/L as nitrogen.

I, PAMELA C. CREEDON, 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 8 October 2009.

Original signed by: Kenneth D. Landau for

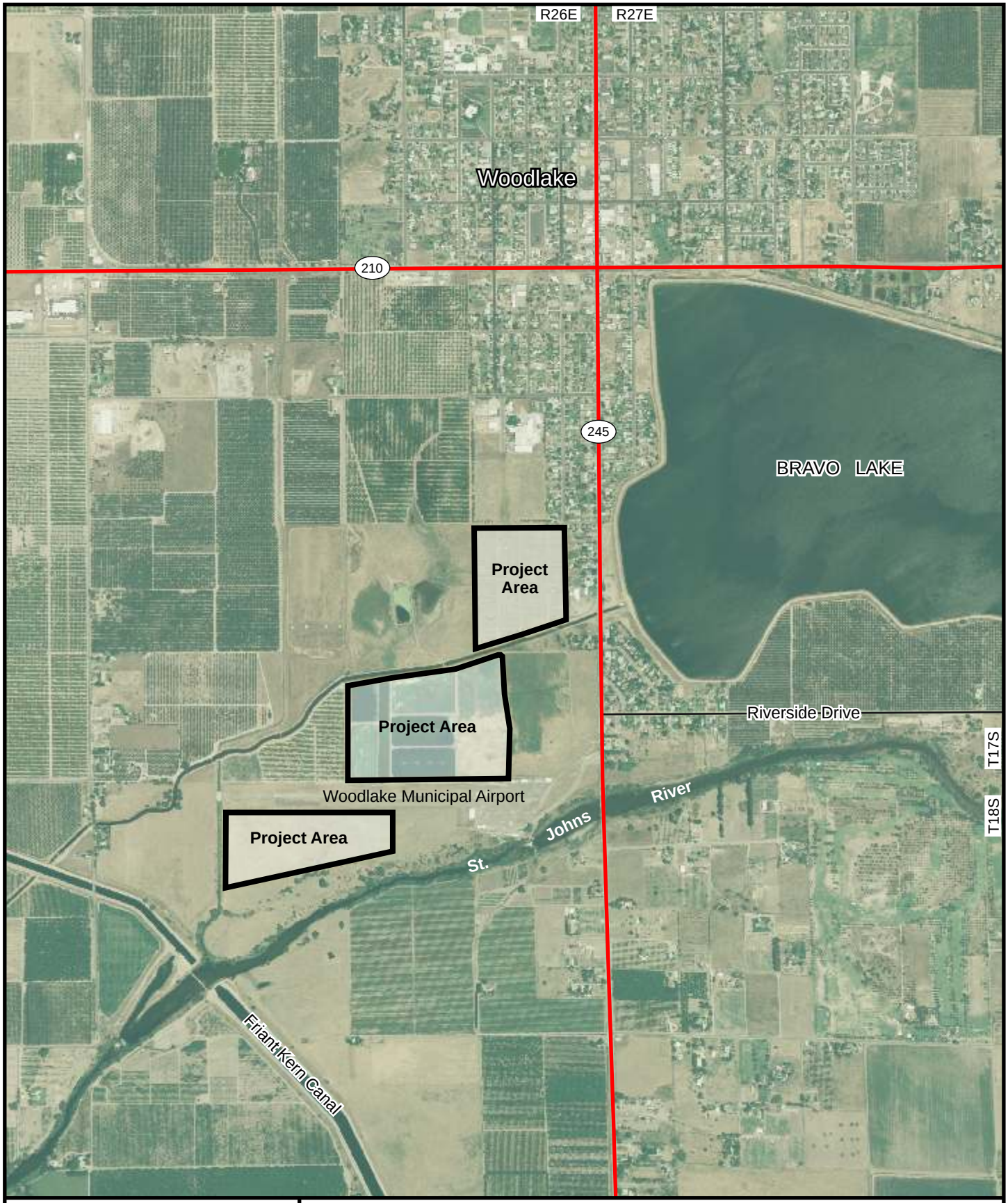
_____

PAMELA C. CREEDON, Executive Officer

Order Attachments:

A Site Location Map
B Flow Schematic
C Monitoring Well Installation Report Requirements
Monitoring and Reporting Program No. R5-2009-0103
Information Sheet
Standard Provisions (1 March 2009)

DMS/DKP: 8/06/2009



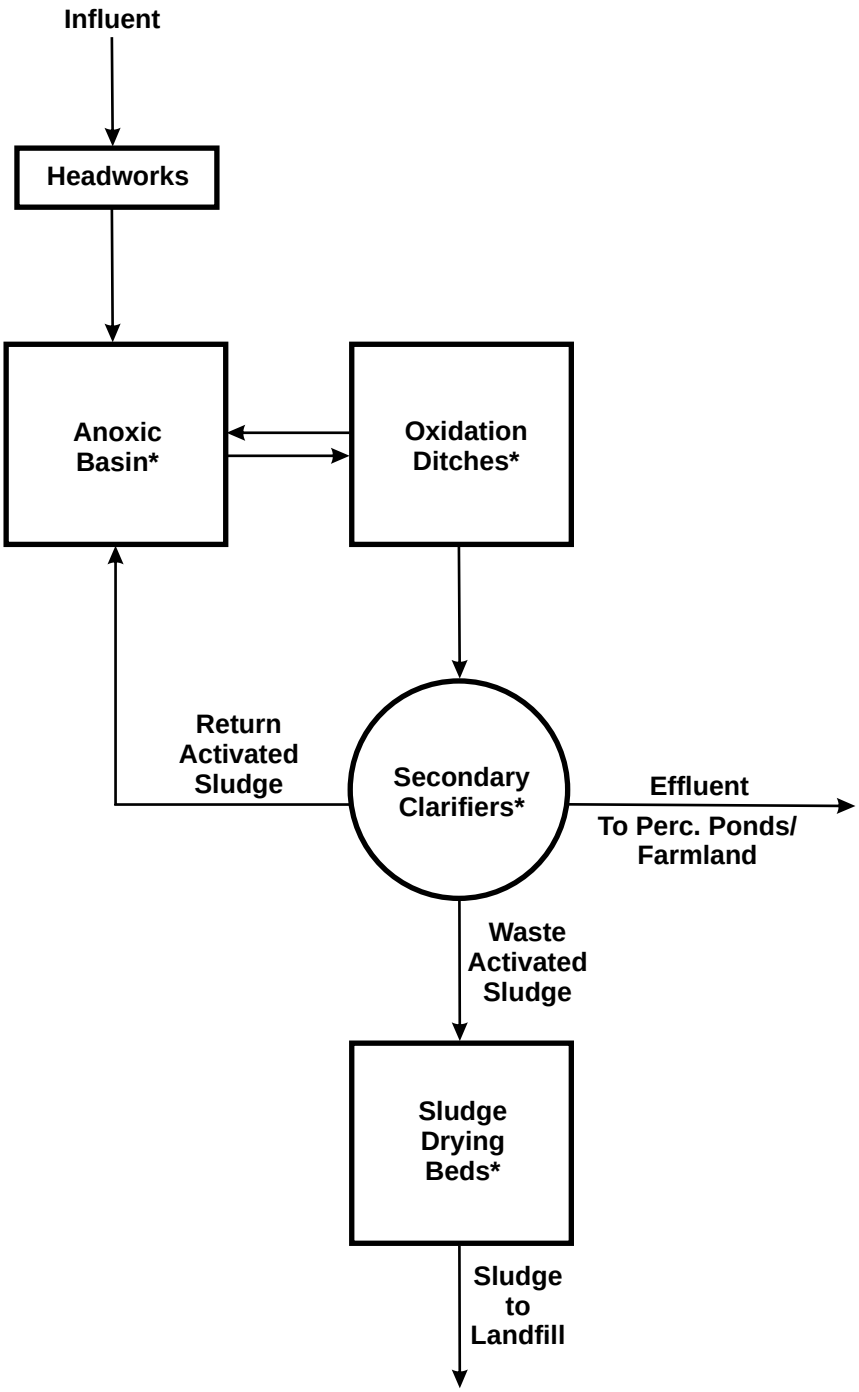
Map Source:
NAIP Aerial Photograph (2005)
Section 36, T17S, R26E, MDB&M, and
Section 1, T18S, R26E, MDB&M

SCALE IN FEET
0 500 1,000 2,000

SITE MAP

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2009-0103
FOR
CITY OF WOODLAKE
WASTEWATER TREATMENT FACILITY
TULARE COUNTY

ATTACHMENT A



NOT TO SCALE

***Phase 1: 2 each**

Phase 2: 3 each

PROCESS FLOW DIAGRAM

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2009-0103

FOR

CITY OF WOODLAKE

WASTEWATER TREATMENT FACILITY

TULARE COUNTY

ATTACHMENT B

ORDER NO. R5-2009-0103
ATTACHMENT C
STANDARD REQUIREMENTS FOR
MONITORING WELL INSTALLATION WORK PLANS AND
MONITORING WELL INSTALLATION REPORTS

Prior to installation of groundwater monitoring wells, the Discharger shall submit a work plan containing, at a minimum, the information listed in Section 1, below. Wells may be installed after staff approve the work plan. Upon installation, the Discharger shall submit a well installation report that includes the information contained in Section 2, below. All work plans and reports must be prepared under the direction of, and certified by, a California registered geologist or civil engineer.

SECTION 1 - Monitoring Well Installation Work Plan and Groundwater Sampling and Analysis Plan

The monitoring well installation work plan shall contain, at a minimum, the following information:

A. General Information:
   Purpose of the well installation project
   Brief description of local geologic and hydrogeologic conditions
   Proposed monitoring well locations and rationale for well locations
   Topographic map showing facility location, roads, and surface water bodies
   Large-scaled site map showing all existing on-site wells, proposed wells, surface water bodies and drainage courses, buildings, waste handling facilities, utilities, and major physical and man-made features

B. Drilling Details:
   On-site supervision of drilling and well installation activities
   Description of drilling equipment and techniques
   Equipment decontamination procedures
   Cuttings disposal methods
   Soil sampling intervals (if appropriate); logging methods; number and location of soil samples and rationale; and sample collection, preservation, and analytical methods

C. Monitoring Well Design (in graphic form with rationale provided in narrative form):
   Diagram of proposed well construction details
   - Borehole diameter
   - Casing and screen material, diameter, and centralizer spacing (if needed)
   - Type of well caps (bottom cap either screw on or secured with stainless steel screws)
   - Anticipated depth of well, length of well casing, and length and position of perforated interval
   - Thickness, position and composition of surface seal, sanitary seal, and sand pack
   - Anticipated screen slot size and filter pack

D. Well Development (not to be performed until at least 48 hours after sanitary seal placement):
Method of development to be used (i.e., surge, bail, pump, etc.)
Parameters to be monitored during development and record keeping technique
Method of determining when development is complete
Disposal of development water

E. Well Survey (precision of vertical survey data shall be at least 0.01 foot):
Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey
Datum for survey measurements
List well features to be surveyed (i.e., top of casing, horizontal and vertical coordinates, etc.)

F. Schedule for Completion of Work

G. Appendix: Groundwater Sampling and Analysis Plan (SAP)
The Groundwater SAP, a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities, shall contain, at a minimum, a detailed written description of standard operating procedures for:

- Equipment to be used during sampling
- Equipment decontamination procedures
- Water level measurement procedures
- Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged)
- Monitoring and record keeping during water level measurement and well purging (include copies of record keeping logs to be used)
- Purge water disposal
- Analytical methods and required reporting limits
- Sample containers and preservatives
- Sampling
  - General sampling techniques
  - Record keeping during sampling (include copies of record keeping logs to be used)
  - QA/QC samples
- Chain of Custody
- Sample handling and transport

SECTION 2 - Monitoring Well Installation Report

The monitoring well installation report must provide the information listed below. In addition, the report must also clearly identify, describe, and justify any deviations from the approved work plan.

A. General Information:
- Purpose of the well installation project
- Number of monitoring wells installed and identifying label(s) for each
- Brief description of geologic and hydrogeologic conditions encountered during well installation
- Topographic map showing facility location, roads, surface water bodies
- Large-scaled site map showing all previously existing wells, newly installed wells, surface water bodies and drainage courses, buildings, waste handling facilities, utilities, and other major physical and man-made features.

B. Drilling Details (in narrative and/or graphic form):
- On-site supervision of drilling and well installation activities
- Drilling contractor and driller's name
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Well boring log (provide for each well)
  - Well boring number and date drilled
  - Borehole diameter and total depth
  - Total depth of open hole (i.e., total depth drilled if no caving or back-grouting occurs)
  - Depth to first encountered groundwater and stabilized groundwater depth
  - Detailed description of soils encountered, using the Unified Soil Classification System

C. Well Construction Details (provide for each well):
- Well construction diagram including:
  - Monitoring well number and date constructed
  - Casing and screen material, diameter, and centralizer spacing (if needed)
  - Length of well casing
  - Length and position of slotted casing and size of perforations
  - Thickness, position and composition of surface seal, sanitary seal, and sand pack
  - Type of well caps (bottom cap either screw on or secured with stainless steel screws)

E. Well Development (provide for each well):
- Date(s) and method of development
- How well development completion was determined
- Volume of water purged from well and method of development water disposal

F. Well Survey (provide for each well):
- Reference elevation at the top rim of the well casing with the cap removed (feet above mean sea level to within 0.01 foot)
- Ground surface elevation (feet above mean sea level to within 0.01 foot)
- Horizontal geodetic location, where the point of beginning shall be described by the California State Plane Coordinate System, 1983 datum, or acceptable alternative (provide rationale)
- Present the well survey report data in a table

G. Water Sampling:

- Date(s) of sampling
- How well was purged
- How many well volumes purged
- Levels of temperature, EC, and pH at stabilization
- Sample collection, handling, and preservation methods
- Sample identification
- Analytical methods used
- Laboratory analytical data sheets
- Water level elevation(s)
- Groundwater contour map

H. Soil Sampling (if applicable):
- Date(s) of sampling
- Sample collection, handling, and preservation methods
- Sample identification
- Analytical methods used
- Laboratory analytical data sheets
- Present soil sampling data in a table

I. Well Completion Report(s) (as defined in California Water Code §13751). Blank forms are available from California Department of Water Resources' website **www.water.ca.gov**. Submit this section under separate cover.

J. Appendix - include, at a minimum, copies of the following:
- County-issued well construction permits
- Registered engineer or licensed surveyor's report and field notes
- Field notes from well development

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2009-0103
FOR
CITY OF WOODLAKE
WASTEWATER TREATMENT FACILITY
TULARE COUNTY

This Monitoring and Reporting Program (MRP) is required pursuant to California Water Code (CWC) Section 13267.

The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts or the Executive Officer issues a revised MRP. Changes to sample locations shall be established with concurrence of Central Valley Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer.

All samples should be representative of the volume and nature of the discharge or matrix of material sampled. All analyses shall be performed in accordance with ***Standard Provisions and Reporting Requirements for Waste Discharge Requirements***, dated 1 March 1991 (Standard Provisions).

Field test instruments (such as pH) may be used provided that the operator is trained in the proper use of the instrument and each instrument is serviced and/or calibrated at the recommended frequency by the manufacturer or in accordance with manufacturer instructions.

Analytical procedures shall comply with the methods and holding times specified in the following: *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA); *Test Methods for Evaluating Solid Waste* (EPA); *Methods for Chemical Analysis of Water and Wastes* (EPA); *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA); *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125). Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the California Department of Public Health's Environmental Laboratory Accreditation Program). The Discharger may propose alternative methods for approval by the Executive Officer.

If monitoring consistently shows no significant variation in magnitude of a constituent concentration or parameter after at least 12 months of monitoring, the Discharger may request the MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

A glossary of terms used within this MRP is included on page 9 and a list of the constituents required for the monitoring of Priority Pollutants is included in Table 1, which is on page 10.

INFLUENT MONITORING

Influent samples shall be collected at the inlet of the headworks of the WWTF. Time of collection of the sample shall be recorded. Influent monitoring shall include at least the following:

Frequency	Constituent/Parameter	Units	Sample Type
Continuous	Flow	mgd	Meter
Twice Monthly	pH	pH Units	Grab
Twice Monthly	EC	µmhos/cm	Grab
Twice Monthly	BOD	mg/L	24-hour composite
Twice Monthly	TSS	mg/L	24-hour composite
Monthly	Monthly Average Discharge Flow	mgd	Computed

EFFLUENT MONITORING

Effluent samples shall be collected at a point in the system following treatment and before discharge to the effluent ponds. Time of collection of the sample shall be recorded. Effluent monitoring shall include the following:

Frequency	Constituent/Parameter	Units	Sample Type
Weekly	pH	pH Units	Grab
Weekly	EC	µmhos/cm	Grab
Weekly	BOD_5	mg/L	24-hour composite
Weekly	TSS	mg/L	24-hour composite
Monthly	Total Nitrogen	mg/L	24-hour composite
Annually	General Minerals	mg/L	24-hour composite
Once every 5 years	Priority Pollutants (see Table 1)	Varies[1]	Varies

[1] mg/L or µg/L, as appropriate.

POND MONITORING

Permanent markers (e.g., staff gages) shall be placed in all ponds. The markers shall have calibrations indicating water level at the design capacity and available operational freeboard. Effluent pond monitoring shall include at least the following:

Frequency	Constituent/Parameter	Units	Sample Type
Weekly	DO[2]	mg/L	Grab
Weekly	pH[3]	pH Units	Grab
Weekly	Freeboard	Feet[1]	Grab

[1] To nearest tenth of a foot

[2] Should the DO be below 1.0 mg/L during a weekly sampling event, the Discharger shall take all reasonable steps to correct the problem and commence daily DO monitoring in the affected ponds until the problem has been resolved.

[3] In the event that the pH of the discharge is less than 6.5 or greater than 8.5 pH units for more than three consecutive sampling events, the Discharger shall submit a technical evaluation in its monthly SMRs documenting the pH of the discharge to the reclamation area, and if necessary demonstrate that the effect of the discharge on soil pH will not exceed the buffering capacity of the soil profile.

The Discharger shall inspect the condition of the ponds weekly and record visual observations in a bound logbook. Notations shall include observations of whether weeds are developing in the water or along the bank, and their location; whether grease, dead algae, vegetation, scum, or debris are accumulating on the pond surface and their location; whether burrowing animals or insects are present; and the color of the reservoirs (e.g., dark sparkling green, dull green, yellow, gray, tan, brown, etc.). A summary of the entries made in the log shall be included in the subsequent monitoring report.

GROUNDWATER MONITORING

After measuring water levels and prior to collecting samples, each monitoring well shall be adequately purged to remove water that has been standing within the well screen and casing that may not be chemically representative of formation water. Depending on the hydraulic conductivity of the geologic setting, the volume removed during purging is typically from 3 to 5 volumes of standing water within the well casing and screen, or additionally the filter pack pore volume.

The Discharger shall monitor all wells in its Groundwater Monitoring Network, and any additional wells installed pursuant to this MRP, for the following:

Frequency	Constituent/Parameter	Units	Sample Type
Quarterly	Depth to groundwater	Feet[1]	Measured
Quarterly	Groundwater Elevation	Feet[2]	Computed
Quarterly	pH	pH Units	Grab
Quarterly	EC	µmhos/cm	Grab
Quarterly	Nitrate as N	mg/L	Grab
Quarterly	Total Nitrogen	mg/L	Grab
Quarterly	Total Organic Carbon	mg/L	Grab

Frequency	Constituent/Parameter	Units	Sample Type
Quarterly	Total Dissolved Solids	mg/L	Grab
Quarterly	Chloride	mg/L	Grab
Quarterly	Sodium	mg/L	Grab
Quarterly	Arsenic	µg/L	Grab
Quarterly	Iron[3]	µg/L	Grab
Quarterly	Manganese[3]	µg/L	Grab
Quarterly	General Minerals	mg/L	Grab

[1] To nearest tenth of a foot

[2] To nearest tenth of a foot above Mean Sea Level

[3] Samples placed in an acid-preserved bottle for metals analysis must first be filtered. If filtering in the field is not feasible, sampling shall be collected in unpreserved containers and submitted to the laboratory within 24 hours with a request (on the chain of custody form) to immediately filter then preserve the sample.

SOURCE WATER MONITORING

For each source (either well of surface water supply), the Discharger shall calculate the flow-weighted average concentrations for the specified constituents utilizing monthly flow data and the most recent chemical analysis conducted in accordance with Title 22 drinking water requirements. Alternatively, the Discharger may establish representative sampling stations within the distribution system serving the same area as is served by the WWTF.

Frequency	Constituent/Parameter	Units	Sample Type
Annually	Flow-weighted average EC	µmhos/cm	Computed
Annually	General Minerals	mg/L	Computed

SLUDGE MONITORING

Sludge shall be sampled for the following constituents:

Arsenic	Copper	Nickel
Cadmium	Lead	Selenium
Molybdenum	Mercury	Zinc

Monitoring shall be conducted using the methods in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (SW-846), as required in Title 40 of the Code of Federal Regulations (40 CFR), Part 503.8(b)(4). The constituents listed above shall be monitored at the following frequency, depending on volume generated:

Volume Generated (dry metric tons/year)	Frequency
0 to 290	Annually
290 to 1,500	Quarterly
1,500 to 15,000	Bimonthly (six samples per year)
Greater than 15,000	Monthly

The Discharger shall demonstrate that treated sludge (i.e., biosolids) meets Class A or Class B pathogens reduction levels by one of the methods listed in 40 CFR, Part 503.32. The Discharger shall track and keep records of the operational parameters used to achieve Vector Attraction Reduction requirements in 40 CFR, Part 503.33(b).

REPORTING

All monitoring results shall be reported in **Quarterly Monitoring Reports** which are due by the first day of the second month after the calendar quarter. Therefore, monitoring reports are due as follows:

First Quarter Monitoring Report:	**1 May**
Second Quarter Monitoring Report:	**1 August**
Third Quarter Monitoring Report:	**1 November**
Fourth Quarter Monitoring Report:	**1 February**

A transmittal letter shall accompany each monitoring report. The transmittal letter shall discuss any violations that occurred during the reporting period and all actions taken or planned for correcting violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions or a time schedule for implementing the corrective actions, reference to the previous correspondence is satisfactory.

The following information is to be included on all monitoring and annual reports, as well as report transmittal letters, submitted to the Central Valley Water Board:

Discharger Name
Facility Name
MRP Number
Contact Information (telephone number and email)

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner that illustrates clearly, whether the Discharger complies with waste discharge requirements.

In addition to the details specified in Standard Provision C.3, monitoring information shall include the method detection limit (MDL) and the reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

Laboratory analysis reports do not need to be included in the monitoring reports; however, the laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3.

All monitoring reports shall comply with the signatory requirements in Standard Provision B.3. Monitoring data or discussions submitted concerning WWTF performance must also be signed and certified by the chief plant operator. If the chief plant operator is not in direct line of supervision of the laboratory function for a Discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

All monitoring reports that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code Sections 6735, 7835, and 7835.1.

A. All Quarterly Monitoring Reports shall include the following:

Wastewater reporting

1. The results of influent, effluent, and pond monitoring specified on pages 2 and 3.

2. For each month of the quarter, calculation of the maximum daily flow and the monthly average flow.

3. For each month of the quarter, calculation of the 12-month rolling average EC of the discharge using the EC value for that month averaged with the EC values for the previous 11 months.

4. For each month of the quarter, calculation of the monthly average effluent BOD and TSS concentrations, and calculation of the percent removal of BOD and TSS compared to the influent.

5. A summary of the notations made in the pond monitoring log during each quarter. Copies of log pages covering the quarterly reporting period shall not be submitted unless requested by Central Valley Water Board staff.

Groundwater reporting

1. The results of groundwater monitoring specified on pages 3 and 4.

2. For each monitoring well, a table showing groundwater depth, elevation, and constituent concentrations for at least five previous years, up through the current quarter.

3. A groundwater contour map based on groundwater elevations for that quarter may be requested by the Executive Officer in writing. If so requested, the map shall show the gradient and direction of groundwater flow under/around the facility and/or effluent disposal area(s). The map shall also include the locations of monitoring wells and wastewater storage and discharge areas.

B. Fourth Quarter Monitoring Reports, in addition to the above, shall include the following:

Wastewater treatment facility information

1. The names, certificate grades, and general responsibilities of all persons in charge of wastewater treatment and disposal.

2. The names and telephone numbers of persons to contact regarding the WWTF for emergency and routine situations.

3. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibrations (Standard Provision C.4).

4. A statement whether the current operation and maintenance manual, sampling plan, and contingency plan, reflect the WWTF as currently constructed and operated, and the dates when these documents were last reviewed for adequacy.

5. The results of an annual evaluation conducted pursuant to Standard Provision E.4 and a figure depicting monthly average discharge flow for the previous five calendar years.

Source Water reporting, including the results of **EC** monitoring specified on page 4, and supporting calculations.

Solids/Sludge monitoring

1. Annual production totals in dry tons or cubic yards.
2. A description of disposal methods, including the following information related to the disposal methods used. If more than one method is used, include the percentage disposed of by each method.
   a. For landfill disposal, include: the name and location of the landfill, and the Order number of WDRs that regulate it.
   b. For land application, include: the location of the site, and the Order number of any WDRs that regulate it.
   c. For incineration, include: the name and location of the site where incineration occurs, the Order number of WDRs that regulate the site, the disposal method of ash, and the name and location of the facility receiving ash (if applicable).
   d. For composting, include: the location of the site, and the Order number of any WDRs that regulate it.

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

Ordered by: *Original signed by: Kenneth D. Landau for*
PAMELA C. CREEDON, Executive Officer

8 October 2009
(Date)

DMS/DKP: 08/06/2009

GLOSSARY

BOD_5	Five-day biochemical oxygen demand
CBOD	Carbonaceous BOD
DO	Dissolved oxygen
EC	Electrical conductivity at 25° C
FDS	Fixed dissolved solids
NTU	Nephelometric turbidity unit
TKN	Total Kjeldahl nitrogen
TDS	Total dissolved solids
TSS	Total suspended solids
Continuous	The specified parameter shall be measured by a meter continuously.
24-Hour Composite	Samples shall be a flow-proportioned composite consisting of at least eight aliquots.
Daily	Samples shall be collected at least every day.
Twice Weekly	Samples shall be collected at least twice per week on non-consecutive days.
Weekly	Samples shall be collected at least once per week.
Twice Monthly	Samples shall be collected at least twice per month during non-consecutive weeks.
Monthly	Samples shall be collected at least once per month.
Bimonthly	Samples shall be collected at least once every two months (i.e., six times per year) during non-consecutive months.
Quarterly	Samples shall be collected at least once per calendar quarter. Unless otherwise specified or approved, samples shall be collected in January, April, July, and October.
Semiannually	Samples shall be collected at least once every six months (i.e., two times per year). Unless otherwise specified or approved, samples shall be collected in April and October.
Annually	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in October.
mg/L	Milligrams per liter
mL/L	milliliters [of solids] per liter
µg/L	Micrograms per liter
µmhos/cm	Micromhos per centimeter
mgd	Million gallons per day
MPN/100 mL	Most probable number [of organisms] per 100 milliliters
General Minerals	Analysis for General Minerals shall include at least the following:

Alkalinity	Chloride	Sodium
Bicarbonate	Hardness	Sulfate
Calcium	Magnesium	TDS
Carbonate	Potassium	

General Minerals analyses shall be accompanied by documentation of cation/anion balance.

Table 1. Priority Pollutant Scan

Inorganics[1]	***Organics***	3-Methyl-4-Chlorophenol	Hexachlorobenzene
Antimony	Acrolein	Pentachlorophenol	Hexachlorobutadiene
Arsenic	Acrylonitrile	Phenol	Hexachlorocyclopentadiene
Beryllium	Benzene	2,4,6-Trichlorophenol	Hexachloroethane
Cadmium	Bromoform	Acenaphthene	Indeno(1,2,3-c,d)pyrene
Chromium (III)	Carbon tetrachloride	Acenaphthylene	Isophorone
Chromium (VI)	Chlorobenzene	Anthracene	Naphthalene
Copper	Chlorodibromomethane	Benzidine	Nitrobenzene
Lead	Chloroethane	Benzo(a)Anthracene	N-Nitrosodimethylamine
Mercury	2-Chloroethylvinyl Ether	Benzo(a)pyrene	N-Nitrosodi-n-Propylamine
Nickel	Chloroform	Benzo(b)fluoranthene	N-Nitrosodiphenylamine
Selenium	Dichlorobromomethane	Benzo(g,h,i)perylene	Phenanthrene
Silver	1,1-Dichloroethane	Benzo(k)fluoranthene	Pyrene
Thallium	1,2-Dichloroethane	Bis(2-chloroethoxy) methane	1,2,4-Trichlorobenzene
Zinc	1,1-Dichloroethylene	Bis(2-chloroethyl) ether	
Cyanide	1,2-Dichloropropane	Bis(2-chloroisopropyl) ether	***Pesticides***
Asbestos	1,3-Dichloropropylene	Bis(2-Ethylhexyl)phthalate	Aldrin
	Ethylbenzene	4-Bromophenyl phenyl ether	alpha-BHC
Dioxin Congeners	Methyl Bromide	Butylbenzyl Phthalate	beta-BHC
2,3,7,8-TCDD	Methyl Chloride	2-Chloronaphthalene	gamma-BHC (Lindane)
1,2,3,7,8-PentaCDD	Methylene Chloride	4-Chlorophenyl Phenyl Ether	delta-BHC
1,2,3,4,7,8-HexaCDD	1,1,2,2-Tetrachloroethane	Chrysene	Chlordane
1,2,3,6,7,8-HexaCDD	Tetrachloroethylene (PCE)	Dibenzo(a,h)Anthracene	4,4'-DDT
1,2,3,7,8,9-HexaCDD	Toluene	1,2-Dichlorobenzene	4,4'-DDE
1,2,3,4,6,7,8-HeptaCDD	1,2-Trans-Dichloroethylene	1,3-Dichlorobenzene	4,4'-DDD
OctaCDD	1,1,1-Trichloroethane	1,4-Dichlorobenzene	Dieldrin
2,3,7,8-TetraCDF	1,1,2-Trichloroethane	3,3'-Dichlorobenzidine	alpha-Endosulfan
1,2,3,7,8-PentaCDF	Trichloroethylene (TCE)	Diethyl phthalate	beta-Endosulfan
2,3,4,7,8-PentaCDF	Vinyl chloride	Dimethyl phthalate	Endosulfan Sulfate
1,2,3,4,7,8-HexaCDF	2-Chlorophenol	Di-n-Butyl Phthalate	Endrin
1,2,3,6,7,8-HexaCDF	2,4-Dichlorophenol	2,4-Dinitrotoluene	Endrin Aldehyde
1,2,3,7,8,9-HexaCDF	2,4-Dimethylphenol	2,6-Dinitrotoluene	Heptachlor
2,3,4,6,7,8-HexaCDF	2-Methyl-4,6-Dinitrophenol	Di-n-Octyl Phthalate	Heptachlor epoxide
1,2,3,4,6,7,8-HeptaCDF	2,4-Dinitrophenol	1,2-Diphenylhydrazine	Polychlorinated biphenyls
1,2,3,4,7,8,9-HeptaCDF	2-Nitrophenol	Fluoranthene	Toxaphene
OctaCDF	4-Nitrophenol	Fluorene	

[1] With the exception of wastewater samples, samples placed in an acid-preserved bottle for metals analysis must first be filtered. If filtering in the field is not feasible, samples shall be collected in unpreserved containers and submitted to the laboratory within 24 hours with a request (on the chain of custody form) to immediately filter then preserve the sample.

[2] Samples to be analyzed for volatile compounds and phthalate esters shall be grab samples; the remainder shall be 24-hour composite samples.

INFORMATION SHEET

INFORMATION SHEET – ORDER NO. R5-2009-0103
CITY OF WOODLAKE
WASTEWATER TREATEMENT PLANT
TULARE COUNTY

Background

Woodlake (hereafter Discharger) operates a Wastewater Treatment Facility (WWTF) located a mile south of the City. The WWTF is regulated by Waste Discharge Requirements (WDRs) Order No. 5-01-076 that authorizes a discharge of 1.0 million gallons per day (mgd) of undisinfected secondary treated wastewater to four percolation ponds, and one emergency pond. Water Reclamation Requirements (WRRs) Order No. 01-082 regulates the discharge of treated wastewater to 35 acres of farmland owned by Sentinel Butte Water Company. The WWTF is also regulated by Cease and Desist Order (CDO) No. 5-01-077 to address effluent Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) exceedences.

In July 2008 the Discharger submitted a Report of Waste Discharge (RWD) proposing to expand the WWTF in two phases. The peak daily flow and peak monthly flow will be approximately 1.87 mgd and 1.38 mgd, respectively, for Phase One and about 2.52 mgd and 1.92 mgd, respectively, for Phase Two. In Phase One a new headworks and magnetic flow meter will be installed. There will be two treatment trains running in parallel. Each treatment train will consist of one 0.60 mgal oxidation ditch, and one 0.20 mgal anoxic basin, and one two 55-foot diameter secondary clarifiers. The aerated lagoons will be converted to asphalt lined sludge drying beds and two new percolation ponds will be constructed.

WDRs Order No. 5-01-076 is being updated by this Order. With the construction of additional percolation ponds the WWTF will have enough storage capacity for the 1.38 mgd expansion. WRRs for the 35 acres of farmland owned by Sentinel Butte Water Company will be updated separately.

Solids and Biosolids Disposal

Because the unlined sludge drying beds are a potential source of groundwater degradation, the Discharger is proposing to line the sludge drying beds with asphalt. According to the RWD dry sludge will continue to be hauled off site after the construction of the upgraded WWTF.

Groundwater Conditions

The groundwater monitoring network in the vicinity of the WWTF consists of three groundwater monitoring wells (MW-1 though MW-3) that were installed in October 2000. After the groundwater monitoring wells were installed, Central Valley Water Board staff determined it was inadequate because the monitoring wells were monitoring two different groundwater zones. The Discharger did not submit analytical data and never initiated groundwater monitoring of the wells.

In June 2007 the Discharger submitted a Work Plan for the installation of a new groundwater monitoring network. The Work Plan proposed to use two of the existing groundwater monitoring wells (MW-2 and MW-3) along with three new wells. If after the installation of the new wells, MW-2 and MW-3 are not similar and the direction of groundwater cannot be determined from these wells, an additional well will need to be installed.

Compliance History
The most recent Notice of Violation (NOV) was issued to the Discharger on 2 April 2007 for violating Discharge Specification B.3 and discharging wastewater that exceeds the monthly average and daily maximum of 40 mg/L and 80 mg/L, respectively, for both BOD and TSS.

Monitoring and Reporting Program (MRP) No. 5-01-076 requires the Discharger to monitor source water EC on a quarterly basis, and source water TDS once every three years. For several years the Discharger did not report source water EC and TDS until it was brought to its attention by Central Valley Water Board staff. The Discharger began monitoring source water and reporting the results in its August and December 2008 SMRs.

The MRP also requires the Discharger to submit quarterly groundwater monitoring data. To date no records indicate that groundwater monitoring data was submitted to the Central Valley Water Board.

Basin Plan, Beneficial Uses, and Regulatory Considerations
The Basin Plan indicates the greatest long-term water quality problem facing the entire Tulare Lake Basin is increasing salinity in groundwater, a process accelerated by man's activities and particularly affected by intensive irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. The Central Valley Water Board encourages proactive management of waste stream by dischargers to control addition of salt through use, and has established an incremental EC limitation of 500 µmhos/cm or a 1,000 µmhos/cm, as the measure of the maximum permissible addition of salt constituents through use.

The Basin Plan states that discharges to areas that may recharge good quality groundwaters shall not exceed an EC of 1,000 µmhos/cm, a chlorine content of 175 mg/L, or boron content of 1.0 mg/L.

Antidegradation
The antidegradation directives of State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Water In California," or "Antidegradation Policy" require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with the maximum benefit to the people of the State." Water can be of high quality for some constituents or beneficial uses and not others. Policy and procedures for complying with directives are set forth in the Basin Plan. Degradation of groundwater by some of the typical waste constituents released with discharge from a municipal wastewater utility after effective source control, treatment, and control is consistent with maximum benefit to the people of the State. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impact on water quality will be substantially less. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, provided terms of the Basin Plan are met.

Constituents of concern in the discharge that have the potential to degrade groundwater include salts and nutrients. However, the discharge will likely not impair the beneficial uses of groundwater because:

a. For salinity, the Basin Plan contains effluent limits for EC of source water plus 500 µmhos/cm and 1,000 µmhos/cm maximum for discharges to areas that may recharge to good quality groundwater. These limits considered the antidegradation policy when adopted. The current discharge meets the source water plus 500 µmhos/cm limit, and is also less than the lowest numerical limit to protect the most sensitive agricultural use (700 µmhos/cm).

b. For nitrogen, the upgraded WWTF will treat to less than 10 mg/L. Therefore, any degradation that may occur from the discharge would not exceed a Water Quality Objective nor impair a Beneficial Use.

Treatment Technology and Control
The expansion project will provide treatment and control of the discharge that incorporates:

a. Secondary treatment of the wastewater;
b. Appropriate biosolids handling and treatment for reuse;
c. An operation and maintenance (O&M) manual;
d. Certified operators to insure proper operation and maintenance; and
e. Discharge and groundwater monitoring.

Title 27
Title 27, CCR, section 20005 et seq. (Title 27) contains regulations to address certain discharges to land. Title 27 establishes a waste classification system, specifies sitting and construction standards for full containment of classified waste, requires extensive monitoring of groundwater and the unsaturated zone for any indication of failure of containment, and specifies closure and post-closure maintenance requirements. Generally, no degradation of groundwater quality by any waste constituent in a classified waste is acceptable under Title 27 regulations.

Discharges of domestic sewage and treated effluent can be treated and controlled to a degree that will not result in unreasonable degradation of groundwater. For this reason, they have been conditionally exempted from Title 27. Treatment and storage facilities for sludge that are part of the WWTF are considered exempt from Title 27 under section 20090(a), provided that the facilities not result in a violation of any water quality objective. However, residual sludge (for the purposes of the proposed Order, sludge that will not be subjected to further treatment by the WWTF) is not exempt from Title 27. Solid waste (e.g., grit and screenings) that results from treatment of domestic sewage and industrial waste also is not exempt from Title 27. This residual sludge and solid waste are subject to the provisions of Title 27.

Accordingly, the municipal discharge of effluent and the operation of treatment or storage facilities associated with a municipal wastewater treatment plant can be allowed without requiring compliance with Title 27 because the resulting degradation of groundwater will be in accordance with the Basin Plan.

CEQA
A Final Environmental Impact Report (FEIR), State Clearinghouse Number 2009041134, dated June 2009 was adopted for the proposed WWTF upgrade to an ultimate design flow of 1.8 mgd.

Proposed Order Terms and Conditions

Discharge Prohibitions, Specifications and Provisions
The proposed Order prohibits discharge to surface waters and water drainage courses and cross connection between potable water and well water piping with recycled water piping.

The proposed Order would set a monthly average flow limit of 1.38 mgd, with effluent limits for BOD_5 and TSS of 40 mg/L monthly average and 80 mg/L daily maximum. These limitations are based on Basin Plan minimum performance standards for municipal facilities.

The provisions regarding pond dissolved oxygen, pH, and freeboard are consistent with Central Valley Water Board policy for the prevention of nuisance conditions, and are applied to all such facilities.

The proposed Order would prescribe groundwater limitations that implement water quality objectives for groundwater from the Basin Plan. The limitations require that the discharge not cause or contribute to exceedances of these objectives or natural background water quality, whichever is greater.

The proposed Order includes Provisions that would require the Discharger to install an adequate groundwater monitoring network. The Order would also provide a time schedule for the Discharger to submit a Work Plan for the construction of berms, or other engineering controls, that will prevent inundation during a 100-year event, and a performance demonstration of the lined sludge drying beds.

Monitoring Requirements
The proposed Order includes influent and effluent monitoring requirements, pond monitoring, groundwater monitoring, source water monitoring, sludge monitoring, and Reclamation Area monitoring. This monitoring is necessary to characterize the discharge, evaluate compliance with effluent limitations prescribed by the Order, and evaluate groundwater quality and the extent of the degradation caused by the discharge.

The Discharger must monitor groundwater for waste constituents expected to be present in the discharge, and capable of reaching groundwater and violating groundwater limitations if its treatment, control, and environmental attenuation, proves inadequate. For each

constituent of concern, the Discharger must, as part of each monitoring event, compare concentrations of constituents found in each monitoring well (or similar type of groundwater monitoring device) to the background concentration or to prescribed numerical limitations to determine compliance.

Proposed Enforcement Order
The Discharger cannot comply with the effluent limitations of the existing Order and proposed Order due to lack of treatment. Once the Expansion Project is competed, the Discharger shall be able to comply with the terms and conditions of the proposed Order. An accompanying draft Cease and Desist Order provides a time schedule for the Discharger to complete the Expansion Project.

Reopener
The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. It may be appropriate to reopen the Order if applicable laws and regulations change.

DMS/dkp: 8/06/2009