



**California Regional Water Quality Control Board  
Central Valley Region**

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**Edmund G. Brown Jr.**  
Governor

5 March 2012

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**ADMINISTRATIVE CIVIL LIABILITY ORDER R5-2011-0538, REVISION NO. 1, LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT, NAPA COUNTY**

Enclosed for your information is Administrative Civil Liability (ACL) Order R5-2011-0538, Revision No. 1. This Order assesses three hundred and seventy five thousand dollars (\$375,000) in civil liabilities for violations of Waste Discharge Requirements (WDRs) Order R5-2008-0068.

On 2 February 2012, the tentative version of this Order was mailed to the Discharger and posted on the Central Valley Water Board's website for a 30 day public comment period, which ended on 2 March 2012. On 1 March 2012, Water Board staff received comments from the Discharger. On 2 March 2012, Water Board staff discussed the comments with the Discharger and came to an agreement on the Order. No comments were received from the public.

The Order settles the \$375,000 liability as follows:

- Six thousand seven hundred dollars (\$6,700) is credited to the District for the emergency actions it has undertaken in the fall of 2010.
- Eight thousand three hundred dollars (\$8,300) is credited to the District for a 12 April 2011 payment made to the State Water Pollution Cleanup and Abatement Account
- The outstanding \$360,000 will be permanently suspended pending completion of the tasks described in ACL Order R5-2011-0538, Revision No. 1, and the submittal of reports showing completion of those tasks.

Report	Due Date
Groundwater Monitoring Well Installation Workplan	<b>15 March 2012</b>
Quarterly Progress Reports describing the work completed regarding the required tasks in the ACL Order and those described in the Wastewater Facilities Improvement Plan.	<b>Beginning 1 April 2012</b>
Rainfall and Flow Monitoring Results Report	<b>1 June 2012</b>

<b>Report</b>	<b>Due Date</b>
Monitoring Well Installation Report	<b>1 June 2012</b>
Conduct groundwater monitoring on newly installed wells.	<b>Beginning Second Quarter 2012</b>
Report showing funding options have been identified to complete the improvements. The report shall also provide the funding options which the Discharger has chosen to apply for, and the timing of those particular funding cycles.	<b>15 August 2012</b>
Report describing completed repairs to the sewer collection system to reduce I/I.	<b>1 December 2012</b>
Report of Waste Discharge	<b>1 February 2013</b>
Documentation showing compliance with the California Environmental Quality Act for use of the Bournemoth Property.	<b>1 April 2013</b>
A letter certifying improvements improvements to increase storage and disposal capacity of the wastewater facility have been completed.	<b>1 January 2014</b>
Wastewater Facilities Improvements Completion Report	<b>1 February 2014</b>

In order to conserve paper and reduce mailing costs, paper costs of the Revised Order have been sent to the Discharger only. The full text versions of the documents are available on the Central Valley Water Board's website at:

[http://www.waterboards.ca.gov/centralvalley/adopted\\_orders/](http://www.waterboards.ca.gov/centralvalley/adopted_orders/)

If you have any questions or comments regarding the Revised Order, or would like a paper copy, please contact Guy Childs at 916-464-4648 or at [gchilds@waterboards.ca.gov](mailto:gchilds@waterboards.ca.gov).

*Original signed by*

WENDY WYELS, Supervisor  
Compliance and Enforcement Section

Enclosure: ACL Order R5-2011-0538, Revision No. 1

cc w/o enc: Kenneth Landau, Central Valley Regional Water Board, Rancho Cordova  
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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ADMINISTRATIVE CIVIL LIABILITY ORDER R5-2011-0538, REVISION NO. 1  
IN THE MATTER OF  
LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT  
WASTEWATER TREATMENT FACILITY  
NAPA COUNTY

This Revised Administrative Civil Liability Order is issued to Lake Berryessa Resort Improvement District (hereafter "Discharger") pursuant to California Water Code ("CWC") sections 13350 and 13385, which authorize the imposition of administrative civil liability, and CWC section 7, which authorizes the delegation of the Executive Officer's authority to a deputy, in this case the Assistant Executive Officer.

The original ACL Order, signed on 24 March 2011, memorialized a mutual settlement reached between the Central Valley Water Board's Prosecution Team and the Discharger for the violations alleged in Administrative Civil Liability ("ACL") Complaint R5-2010-0516, which was issued by the Executive Officer on 17 May 2010. The Complaint alleged that the Discharger violated provisions of Waste Discharge Requirements ("WDRs") Order R5-2008-0068 for discharges which occurred prior to May 2010. The original ACL Order required the Discharger to prepare a Wastewater Facilities Improvement Plan (Plan) and then to reach an agreement with the Board to implement the Plan. This Revised ACL Order incorporates the schedule to complete the facility improvements as agreed to by the Discharger and the Prosecution Team. Once the facility improvements are completed, this Order permanently suspends the remaining \$360,000 liability.

The Assistant Executive Officer of the Central Valley Regional Water Quality Control Board ("Central Valley Water Board" or "Board") finds the following:

**Background**

1. The Discharger owns and operates a wastewater collection, treatment and disposal system, referred to as a wastewater treatment facility or WWTF, that currently serves 187 existing single-family dwellings at the Berryessa Estates Subdivision. There are a total of 339 available service connections at full build-out.
2. On 25 April 2008, the Board issued WDRs Order R5-2008-0068, which prescribed requirements for the discharge of domestic wastewater from the Discharger's WWTF. The WDRs contain, among other items, prohibitions, effluent limitations, and monitoring and reporting requirements with which the Discharger must comply.
3. As of May 2010, wastewater from the community flows via gravity to three lift stations where it is pumped to a 91,000-gallon aboveground holding tank and a 21,000-gallon overflow tank. From the tanks, the wastewater is pumped approximately 1.2 miles through a six-inch diameter force main into a manhole. A flow meter is located within the force main. From the manhole, wastewater gravity flows through a 10-inch pipeline to a manually-operated distribution box and to three treatment ponds that are

connected in series. From the third pond, wastewater gravity flows into two other ponds. A portable effluent pump is used to transfer wastewater from these ponds to the two remaining ponds (Pond Nos. 6 and 7). The wastewater in Pond No. 7 is then disinfected using sodium hypochlorite tablets to maintain a chlorine residual of at least 0.3 mg/L and a total coliform organism concentration of less than 23 MPN/100 mL. Wastewater from this pond is then applied via spray irrigation to three separate land application areas totaling approximately six acres. Runoff from the sprayfield is collected via a tailwater collection ditch and returned to Pond No. 7 via a pump system.

### **Chronology of Previous Major Enforcement Items**

4. The Discharger has had a long history of sewage spills at this facility. On 28 December 1995, the Executive Officer issued ACL Complaint 95-516. The ACL Complaint was for a raw sewage spill to Putah Creek estimated at approximately 50,000 gallons and was in the amount of \$25,000. In addition to the monetary penalty, the Discharger was required, pursuant to CWC section 13267, to submit a plan to complete improvements to the system to prevent future unauthorized discharges of wastewater. The ACL Complaint was withdrawn in January 1996 following submittal of a revised compliance schedule.
5. In April 1996, the Discharger submitted a report titled "*Capacity Study for the Wastewater Treatment and Disposal Facilities for Lake Berryessa Resort Improvement District.*" In summary, the report concluded that the infiltration/inflow (I/I) issues at the wastewater collection system were a serious problem and could overwhelm the system's storage and disposal capacity. The report included recommendations for studies to identify sources of I/I and to determine additional methods of wastewater disposal, such as additional ponds and sprayfields.
6. On 20 September 1996, the Board issued Cease and Desist Order (CDO) 96-233. The CDO reflected the Discharger's revised compliance schedule (the document upon which the withdrawal of the ACL Complaint 95-516 was based) and required the Discharger to: begin an I/I study, establish a financial plan, select and design an upgrade to the wastewater facility, complete construction of the project, and submit quarterly progress reports. The final upgrade was to have been completed by 15 September 2001, and was to have resulted in compliance with the WDRs. The Discharger did not comply with the CDO. The only items submitted were an I/I study plan and a five-year financial plan, which were submitted in 1996.
7. On 4 March 2005, the Executive Officer issued ACL Complaint R5-2005-0507 to the Discharger, charging the Discharger with liability in the amount of \$400,000. The Complaint resulted from the Discharger's violations of its WDRs and CDO, with the most significant violation being the months-long discharge of approximately 4.1 million gallons of wastewater into Stone Corral Creek, a tributary of Lake Berryessa, which started on 11 January 2005. Following a hearing, the Central

Valley Water Board issued ACL Order R5-2005-0072 on 29 April 2005 in the amount of \$400,000. The matter was also referred to the Attorney General for additional discharges to surface waters. The Discharger then petitioned the ACL Order to the State Water Board, and, following its dismissal, filed suit in Court. Following several months of negotiations between the Discharger, Board staff, and the Attorney General's office, the Central Valley Water Board agreed to the settlement described in Finding No. 10, below.

8. On 24 January 2007, Board staff issued a Notice of Violation ("NOV") for a controlled discharge of partially treated wastewater to an unpermitted temporary sprayfield. The discharge totaled approximately 5.5 million gallons and occurred over a period of 52 days during March, April, May, and June 2006. Of this, an unknown volume flowed over vegetated land and then entered Stone Corral Creek, Putah Creek, and ultimately Lake Berryessa. The volume of the discharge was based on monthly discharge summary reports provided by the Discharger. The Discharger indicated that the controlled discharge to the unpermitted sprayfield was necessary because of excessive rainfall and the lack of capacity in the wastewater ponds, and to avoid a possible overflow or breach in a pond berm.
9. On 16 May 2007, Board staff issued an NOV for a discharge of wastewater estimated at approximately 7,500 gallons that occurred on 13 April 2007. The spill resulted from a break in the 10-inch gravity sewer pipeline that runs from the main sewage collection tank to the wastewater ponds. The Discharger reported that none of the wastewater entered surface waters.
10. On 13 July 2007, the Executive Officer signed a Stipulated Judgment regarding Case Nos. 6CS00256 and 06AS01602 on behalf of the Central Valley Water Board. On 7 September 2007, the Stipulated Judgment was issued by the Superior Court. The terms of the Stipulated Judgment included: (a) by 10 August 2007, the Discharger must submit a complete RWD to operate a permanent sprayfield; (b) by 31 January 2008, the Discharger must submit a report showing that three of the lift stations had been upgraded; (c) by 1 March 2008, the Discharger must submit a report showing that several sewer line sections have been replaced or repaired; (d) the Discharger must pay the \$400,000 liability beginning 1 August 2009, in monthly installments of \$3,333.33 over a 10 year period; (e) by 30 August 2009, the Discharger must replace the water treatment plant to be in compliance with applicable California Department of Public Health requirements, (f) comply fully with all monitoring and reporting aspects of Revised MRP No. 96-223 or subsequent MRPs, and (g) prevent any future discharges of wastes to surface waters. The Stipulated Judgment also settled the violations noted in Findings 8 and 9.
11. As of May 2010, compliance with the Stipulated Judgment is as follows:

- a. On 27 April 2007, the Discharger submitted the RWD. Supplemental information was received on 7 August 2007, and WDRs Order R5-2008-0068 was adopted by the Central Valley Water Board on 25 April 2008.
- b. On 30 January 2008, the Discharger documented that upgrades to the three lift stations were completed, including new motors and pumps, control systems, and a mobile backup generator.
- c. On 29 February 2009, the Discharger submitted the Sewer Line Rehabilitation Report showing that the sections of sewer pipeline identified in the Stipulated Judgment, along with additional sections, had been either repaired or replaced.
- d. Since September 2009, the Discharger has been paying the \$400,000 liability in monthly installments of \$3,333.33.
- e. A time extension for the Discharger to replace the water treatment plant as described in the Stipulated Judgment is under consideration. Replacement of the water treatment plant will significantly reduce the volume of backwash water discharged to the wastewater collection system.
- f. The Discharger has not prevented discharges of wastes to surface waters, as described in the Findings below, in violation of the Stipulated Judgment.

### **Chronology of Violations Since the Stipulated Judgment**

12. On 18 February 2009, Board staff issued an NOV for an unauthorized discharge of wastewater, estimated at approximately 8,000 gallons, which occurred on 7 January 2009. The spill resulted from a break in the 10-inch gravity sewer pipeline that runs from the main sewage collection tank to the wastewater ponds. The spill entered a drainage swale but did not enter surface waters. The Discharger estimated that between 5,000 and 6,000 gallons of sewage were contained and pumped back into the wastewater treatment ponds.
13. On 17 February 2009, an estimated 20,000 gallons of raw sewage spilled from the 21,000-gallon overflow tank. The spill resulted from excessive infiltration and inflow within the collection system due to a rainstorm. The effluent pump was unable to keep up with the increased flow rate. The main sewer collection tank spilled into the overflow tank and then onto the ground. The raw sewage flowed into a drainage swale, across a gravel/dirt access road, across some natural vegetation, and into Putah Creek. The spill was stopped after the Discharger rented a portable diesel pump and connected it to the collection system. The Discharger reported that the portable pump would remain onsite during the rainy season to ensure that this type of spill did not occur again.

14. From 26 February through 5 March 2009, an unauthorized controlled discharge of approximately 1,630,000 gallons of partially treated wastewater occurred at the WWTF. The discharge occurred from the treatment plant's chlorine contact basin that serves the sprayfield. A portion of the discharge also occurred through the sprayfields. The Discharger stated that the wastewater was dechlorinated prior to being discharged. Runoff from the discharge entered an unnamed creek, then flowed to Stone Coral Creek, Putah Creek, and ultimately to Lake Berryessa. The Discharger stated that the controlled discharge was necessary to avoid a possible overflow or a breach in a pond berm. In addition, the Discharger stated that approximately 147,000 gallons of wastewater was removed from the main collection tank and transported to the Napa Sanitation District Wastewater Treatment Facility for disposal prior to the unauthorized discharge. The Discharger estimated that trucking this wastewater cost about \$30,000. The Discharger stated that some factors that may have contributed to the discharge include: (a) the inability to adequately dispose of the wastewater prior to the rainy season because the new sprayfields approved by WDRs R5-2008-0068 were not completed and approved until the end of August 2008, and (b), additional inflow and infiltration (I/I) issues existed within the collection system that were not identified during the Sewer Line and Lift Station Rehabilitation Project that was completed in March 2008. Finally, the Discharger stated that it will continue to inspect and repair the sewer line to address any newly identified I/I issues.
15. On 9 June 2009, Board staff issued an NOV for the wastewater spills that are described in Findings 13 and 14. The Notice of Violation requested that the Discharger submit a workplan that described proposed measures to be taken to reduce the I/I.
16. On 30 July 2009, the Discharger submitted a workplan stating that they would continue assessing the wastewater collection system zones that continue to exhibit the most I/I and will prioritize the most problematic areas for repairs. Specifically, the Discharger stated that the entire collection system would be video surveyed by 30 September 2009, and that inspection of manholes would be completed and a report submitted by 1 October 2009. In addition, the Discharger stated that the manholes in need of immediate repair were to be repaired by 31 October 2009.
17. On 10 May 2010, Board staff issued an NOV for a controlled discharge of treated wastewater from the spray irrigation field tailwater collection ditch into an unnamed creek, then to Stone Corral Creek, Putah Creek and ultimately into Lake Berryessa. The estimated volume of wastewater released to the creek from the tailwater control ditch since the discharge began on 9 February 2010 was approximately 2,184,500 gallons. This volume is based on 35 days of discharge with the assumption that 85 percent of the total amount of wastewater that was applied to the sprayfields entered the tailwater collection ditch. The Discharger stated that the discharge was necessary because the level of wastewater in four of the seven wastewater ponds was above the minimum two-foot freeboard required by the

WDRs. The Discharger stated that trucking the wastewater to an offsite wastewater disposal facility was considered, however, because there was at least two additional months of wet weather remaining, the discharge could not be prevented by trucking the wastewater to an offsite disposal facility. Finally, the Discharger stated that they needed to conserve funds for additional collection system improvements.

18. To summarize, since issuance of the Stipulated Judgment on 7 September 2007 and issuance of the ACL Complaint in May 2010, the Discharger has reported spills of 8,000 gallons of raw sewage; 20,000 gallons of raw sewage; 1,630,000 gallons of partially treated wastewater; and most recently 2,184,500 gallons of partially treated wastewater. Of these spills, an estimated 3,834,500 gallons entered surface waters tributary to Lake Berryessa. Central Valley Water Board staff issued Notices of Violation for all of the spills. These spills are the subject to this ACL Order.

### **REGULATORY CONSIDERATIONS**

19. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Resources Control Board.
20. Surface water drainage from the site is to Stone Corral Creek, which flows in to Putah Creek and is a tributary to Lake Berryessa.
21. The Basin Plan designates the beneficial uses of Lake Berryessa as municipal and domestic supply (MUN); agricultural supply (AGR); power generation (POW); water contact recreation (REC-1); noncontact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); spawning, reproduction and/or early development of warm freshwater aquatic organisms (SPWN); and wildlife habitat (WILD).
22. Issuance of this Administrative Civil Liability Order to enforce CWC Division 7, Chapter 5.5 is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code § 21000 et seq.), in accordance with California Code of Regulations, title 14, section 15321(a) (2).
23. On 17 November 2009, the State Water Resources Control Board adopted a new Water Quality Enforcement Policy. However, at the time ACL Complaint R5-2010-0516 was issued, the new policy had not yet been approved by the State Office of Administrative Law. Therefore, the Water Quality Enforcement Policy adopted on 19 February 2002 is the controlling policy for the purposes of resolving ACL Complaint R5-2010-0516.

### Violations under CWC section 13350

24. Administrative civil liability may be imposed for violations of WDRs Order R5-2008-0068 pursuant to CWC section 13350(a) which states, in relevant part,
- (a) Any person who ... in violation of any waste discharge requirement ... or other order or prohibition issued, reissued, or amended by a regional board or the state board, discharges waste, or causes or permits waste to be deposited where it is discharged, into the waters of the state... shall be liable civilly, and remedies may be proposed, in accordance with subdivision (d) or (e).
25. CWC section 13350(e) states, in relevant part,
- (e) The state board or a regional board may impose civil liability administratively ... either on a daily basis or on a per gallon basis, but not both.
- (1) The civil liability on a daily basis may not exceed five thousand dollars (\$5,000) for each day the violation occurs.
- (2) The civil liability on a per gallon basis may not exceed ten dollars (\$10) for each gallon of waste discharged.
26. Discharge Prohibition A.2 of Order No. R5-2008-0068 states "Bypass or overflow of untreated or partially treated waste is prohibited."
27. The 8,000 gallon raw sewage spill that occurred on 7 January 2009 from the broken 10-inch gravity sewer pipeline (as described in Finding 12) is a violation of Discharge Prohibition No. A.2 of the WDRs.
28. **Maximum Civil Liability for Discharge to Land:** Pursuant to CWC section 13350(e), up to ten dollars (\$10) for each gallon of waste discharged may be assessed. Therefore, the maximum penalty for this 8,000 gallon spill under section 13350 is **eighty thousand dollars (\$80,000)**.

### Violations under CWC section 13385

29. CWC section 13385 states, in relevant part:
- (a) Any person who violates any of the following shall be liable civilly in accordance with this section:
- ...
- (5) Any requirements of Section 301, 302, 306, 307, 308, 318, 401, or 405 of the Clean Water Act, as amended.
- ...
- (c) Civil liability may be imposed administratively by the state board or a regional board pursuant to Article 2.5 (commencing with Section 13323) of Chapter 5 in an amount not to exceed the sum of both of the following:

(1) Ten thousand dollars (\$10,000) for each day in which the violation occurs.

(2) Where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed ten dollars (\$10) multiplied by the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

30. Discharge Prohibition A.1 of WDRs Order R5-2008-0068 states “Discharge of wastes to surface waters or surface water drainage courses is prohibited.”
31. The spills to surface water described in Findings Nos. 13, 14, and 17 are a violation of Discharge Prohibition. A.1. In addition, WDRs Order R5-2008-0068 does not authorize the discharge of waste to surface waters. Any discharge of waste to surface waters, except those that are in accordance with an NPDES permit, is a violation of the Clean Water Act, section 301. CWC section 13385 authorizes the imposition of administrative civil liability for such violations.
32. **Maximum Civil Liability for Discharge to Surface Waters:** Per CWC section 13385, civil liability administratively imposed by the Central Valley Water Board may not exceed \$10,000 per violation per day, plus \$10 per gallon for each gallon of waste discharged over 1,000 gallons. The Discharger spilled 20,000 gallons of raw sewage to surface waters on 17 February 2008, and 1,630,000 gallons of wastewater to surface waters over an eight day period from 26 February through 5 March 2009. In addition, over a 35 day period beginning on 9 February 2010, the Discharger spilled an estimated 2,184,500 gallons of wastewater to surface waters. Of the 3,834,500 gallons that spilled, a total of 3,826,500 gallons were discharged in excess of 1,000 gallons per spill event over a 44 day period. Therefore, at \$10 per gallon for discharges in excess of 1,000 gallon, and at \$10,000 per day for each day of the discharge, the maximum liabilities are \$38,265,000 and \$440,000. Adding these maximum liability amounts together, the total amount of penalties that may be assessed pursuant to section 13385 is **thirty eight million seven hundred and five thousand dollars (\$38,705,000)**.
33. **Minimum Civil Liability for Discharge to Surface Waters:** Pursuant to CWC section 13385(e), civil liability, at a minimum, must be assessed at a level that recovers the economic benefits, if any, derived from the acts that constitute the violation. The economic benefits are discussed in Finding No. 37, below.

#### **Total Maximum Penalty**

34. Adding together the total maximum penalties that could be assessed under sections 13350 and 13385 (described in Findings 28 and 32), the maximum penalty for the discharge is **thirty eight million seven hundred and eighty five thousand dollars (\$38,785,000)**.

### Settlement Liability Amount<sup>1</sup>

35. On 17 May 2010, Executive Officer Pamela Creedon issued Administrative Civil Liability Complaint R5-2010-0516 to the Discharger. The Complaint proposed three hundred and seventy five thousand dollars (\$375,000) in civil liability pursuant to CWC sections 13350, 13268, and 13385. The amount of the proposed liability was established based on a review of the factors cited in CWC sections 13327 and 13385.
36. Following issuance of the ACL Complaint, the Discharger and the Board's Prosecution Team conferred for the purpose of settling the violations. On 24 November 2010, following negotiations, the Discharger submitted a proposal to settle the ACL Complaint. This settlement proposal was accepted by the Executive Officer, acting as head of the Board's Prosecution Team.
37. CWC sections 13327 and 13385(e) both specify that, in determining the amount of liability imposed under CWC sections 13350 and 13385, the Regional Water Boards shall take into account, "the nature, circumstances, extent, and gravity of the violation or violations, whether the discharge is susceptible to cleanup or abatement, the degree of toxicity of the discharge, and, with respect to the violator, the ability to pay, the effect on its ability to continue its business, any voluntary cleanup efforts undertaken, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters that justice may require." CWC section 13385(e) also adds that, "[a]t a minimum, liability shall be assessed at a level that recovers the economic benefits, if any, derived from the acts that constitute the violation." The following is a discussion of these factors:
  - a. *Nature and Extent:* The Discharger has violated WDRs Order R5-2008-0068 by discharging 3.8 million gallons of raw sewage and partially treated wastewater to surface waters, and by discharging 8,000 gallons of raw sewage that did not reach surface waters. The Discharger violated Discharge Prohibition Nos. A.1 and A.2 of its WDRs. In addition to the WDR violations, the Discharger also violated the September 2007 Stipulated Judgment that required the Discharger to, among other things, prevent any future discharges of waste to surface waters.
  - b. *Circumstances:* For the larger spills totaling 3.8 million gallons, the Discharger was aware of the potential to spill because it knew it had not achieved adequate storage capacity in its pond system prior to the 2008/2009 rainy season. The Discharger had completed its Sewer Line Rehabilitation Project in 2008, but additional improvements to the collection system were needed to reduce the inflow and infiltration (I/I). The Discharger stated that the most reasonable action to reduce I/I was to continue to evaluate the collection system and conduct the

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<sup>1</sup> Pursuant to Finding No. 23 above, the methodology used to calculate the proposed Settlement Amount was the methodology in the Water Quality Enforcement Policy adopted on 19 February 2002 that was in effect at the time the ACL Complaint R5-2010-0516 was issued. This Revised ACL Order does not modify the original Settlement Amount.

necessary repairs. The Discharger completed additional I/I work in the fall of 2009, and provided a water balance showing that it had enough capacity to store all wastewater and I/I generated during a 50-year annual rainfall year. However, the winter of 2010 was less than a 5-year annual return event, and the Discharger spilled almost 2.2 million gallons. Therefore, the Discharger's I/I problem is much worse than was assumed. The Discharger was also required by the Stipulated Judgment to replace its drinking water plant by August of 2009. If it had replaced this plant in a timely manner, it would have significantly reduced the volume of backwash water discharged to the wastewater treatment plant, thereby allowing more capacity for domestic wastewater.

- c. *Gravity of the Violations:* The Discharger failed to prevent the discharge of waste to highly accessible surface waters and creeks which are tributaries to Lake Berryessa, which supports sensitive beneficial uses, including domestic water supply and recreation. Potential health risks from bacteria and viruses resulting from raw or inadequately treated wastewater are a serious concern for humans and wildlife habitat. In addition, the Discharger violated the Stipulated Judgment issued in 2007 for similar spills.
- d. *Susceptibility of the Discharge to Cleanup:* Due to the circumstances of the spills, once the larger spills entered surface waters, there was no practical way to clean up to avoid water quality impacts or impacts to beneficial uses. The smaller spill was contained to land and was cleaned up.
- e. *Toxicity:* The 3.8 million gallons of partially-treated wastewater that spilled into surface waters was partially dechlorinated prior to the discharge, and the 20,000 gallons of raw sewage flowed into surface waters during a rainstorm. No fish kills were reported, and Lake Berryessa itself would be expected to provide some additional dilution. Although these were large spills, the degree of toxicity from these discharges appears to be low.
- f. *Ability to Pay/Ability to Continue Business:* In contrast to many larger dischargers, Lake Berryessa Resort Improvement District serves only 187 homes. The District's operating revenue is derived solely from the rates, property taxes, and standby charges received from its 187 customers. The Napa County Board of Supervisors serves as the Resort Improvement District's Board of Directors. Because the Discharger has a limited income base, in the past it has issued bonds and been loaned money by Napa County to make improvements to the treatment facility and the collection system. The Discharger recently received an American Recovery and Reinvestment Act (ARRA) grant for the full cost to replace the drinking water treatment plant. While the District has a limited ability to pay any fines imposed, the District should be able to pay this penalty and stay in business.

- g. *Voluntary Cleanup/Degree of Cooperation:* The Discharger has been cooperative in providing required spill reports per the WDRs and the Standard Provisions and Reporting Requirements. In general, written spill reports have been complete and submitted in accordance with requirements set forth in the Standard Provisions and Reporting Requirements. The Discharger notified Central Valley Water Board staff, Napa County Environmental Management and the California Emergency Management Agency of the spills. The Discharger provided appropriate notification of the spills in accordance with the Standard Provisions and Reporting Requirements, and has been cooperative with subsequent investigations.
- h. *Prior History of Violations:* There have been four recent major wastewater spill events to Lake Berryessa: 4.1 million gallons of partially treated wastewater spilled 2005, 5.5 million gallons of partially treated wastewater spilled in 2006, 1.6 million gallons of partially treated wastewater spilled in 2009, and approximately 2.2 million gallons of treated wastewater spilled in 2010.
- i. *Degree of Culpability:* The Discharger was aware of the prohibition against discharges to surface waters. The Discharger has been pursuing rate and tax increases, assessments, and bonded capital improvement projects since 2006. Although the Discharger replaced or rehabilitated 8,000 feet of collection pipeline in 2007-2008, this action was not sufficient to reduce inflow/infiltration to the level needed to prevent spills. The Discharger is aware of the potential penalty for wastewater system spills, as it was issued an ACL Order in 2005 in the amount of \$400,000 for wastewater spills. It appears that the only immediate action that the Discharger took prior to the 1.6 million gallon spill that occurred during the spring of 2009 was remove approximately 147,000 gallons of wastewater from the main collection tank and transport it to the Napa Sanitation District Wastewater Treatment Facility for disposal at a cost estimated at approximately \$30,000. The Discharger elected not to transport any wastewater to the Napa Sanitation District during the 2010 spills because it determined that only a limited volume of sewage could be transported, and at significant expense.
- j. *Economic Benefit:* Pursuant to under CWC section 13385(e), the minimum liability is equal to the economic benefits that the Discharger received from the acts that constitute the violation. The 2002 *Water Quality Enforcement Policy* requires that economic benefit calculations include consideration of both delayed and avoided costs. Although the Discharger has issued bonds in September 2007 to upgrade its facilities, it has yet to construct sufficient improvements to prevent further spills. The economic benefit that inured to the Discharger can be estimated based upon the cost of delaying the expansion of the sprayfields and/or making collection system improvements to decrease I/I. The existing data do not specify an exact cost of the needed repairs. Typically, for municipalities that rely on bond funding (as the Discharger has in the past), the delayed cost of performing needed upgrades can be estimated on the basis of the amount that

the municipality would have to pay to service municipal bonds debt in a time period equivalent to the delay. As of November 2010, the Bloomberg average yield on a 5-year municipal bond is 1.72%. Therefore, by delaying issuance of enough bonds to fund all necessary improvements by three years (two years from the original violations that occurred in the rainy season of 08-09, and adding an additional year because improvements will not be in place for the 10-11 rainy season), the Discharger saved approximately \$21,000 in bond service payments (interest compounded monthly) by delaying the needed improvements. The Discharger also accrued avoided costs during the 2010 spill event; for example the Discharger determined it was not viable to transport wastewater to the Napa Sanitation District. The potential cost of transportation and disposal of some volume of the spilled wastewater is an avoided cost. The total administrative civil liability imposed by this Order is above this estimated cost of delayed and avoided actions.

- k. *Other Matters That Justice May Require - Staff Costs:* Staff costs to generate and process the ACL Complaint are estimated to be \$150 x 130 hours = \$19,500. An estimated additional 50 hours (\$7,500) have been spent to settle the Complaint and develop this Order.

#### Issuance of ACL Order

38. On 24 March 2011, the Assistant Executive Officer issued ACL Order R5-2011-0538 in the amount of \$375,000. The Order credited the Discharger with \$6,700 that was spent on emergency disposal repairs, and required payment of \$8,300. The remaining \$360,000 liability would be permanently suspended following completion of two studies and subsequent facility improvements. The Order specified that (a) the studies would include a proposed timeline for improvements, not to exceed 1 January 2014, and (b) that upon receipt of the timeline, the ACL Order would be revised to incorporate the specific tasks.
39. On 12 April 2011, the Discharger paid the \$8,300 in civil liabilities, and on 30 September 2011 submitted the Inflow/Infiltration Capacity Evaluation Report and the Wastewater Facilities Improvement Plan.
40. The Discharger has proposed the following actions to reduce the I/I and increase the overall storage and disposal capacity at the WWTF:
- a. Collect additional flow monitoring data during the 2011/2012 wet weather season to confirm the results of the 2010/2011 flow monitoring program and to provide additional data for use in evaluating the effectiveness of future I/I reduction efforts.
  - b. Conduct video survey inspections of the gravity sewers in Basins A-1 and D-2 that have not been inspected to identify other areas of the gravity sewer system

that may need repair or rehabilitation. Re-inspect those portions of the sewer collection system that were previously inspected where the water level and/or other issues prevented accurate inspections.

- c. Prepare plans and specifications for the gravity sewer rehabilitation and pump station upgrades.
  - d. Design and construct an additional 18 million gallon storage pond (Pond No. 8), and enlarge the existing seven wastewater ponds to increase the total storage pond volume to 27.1 million gallons.
  - e. Design and expand the land application area to allow for additional 9.4 acres wastewater disposal . The neighboring Boumenoth Property is the proposed location for the additional land application area. With the expansion, the total land application area is 15.2 acres .
41. ACL Order R5-2011-0538 states that it will be revised with a schedule to complete tasks specified in the *Wastewater Facilities Improvement Plan*, and that the Board will permanently suspend the \$360,000 in civil liabilities following completion of the tasks in the plan.
  42. On 3 January 2012, Central Valley Water Board staff met with Discharger to discuss a schedule to complete tasks specified in the *Wastewater Facilities Improvement Plan*, and to expand the existing groundwater monitoring well network. This Revised ACL Order memorializes the agreement between the Prosecution Team and the Discharger regarding the tasks and associated completion dates.
  43. On 23 April 2009, the Central Valley Water Board delegated the authority to issue Administrative Civil Liability Orders, where the matter is not contested by the Discharger, to the Executive Officer, or to an Assistant Executive Officer when the Executive Officer is serving as head of the Board's Prosecution Team (Resolution R5-2009-0027). Pamela Creedon is serving as the head of the Board's Prosecution Team for this matter, and therefore Assistant Executive Officer Kenneth Landau has the authority to issue this Order.
  44. This Order constitutes a settlement of the violations cited herein. Notice of this settlement was posted on the Central Valley Water Board's website, and was provided to all interested parties. The 30-day public notice and comment period mandated by Federal regulations (40 CFR 123.27) has expired. Comments were received from the Discharger and have been addressed.
  45. Issuance of this Administrative Civil Liability Order to enforce CWC Division 7, Chapter 5.5 is exempt from the provisions of the California Environmental Quality Act (Pub. Resources Code § 21000 et seq.), on accordance with California Code of Regulations, title 14, section 15321(a)(2).

**IT IS HEREBY ORDERED THAT:**

1. Lake Berryessa Resort Improvement District is hereby assessed administrative civil liability in the amount of three hundred and seventy-five thousand dollars (\$375,000).
  - a. Eight thousand three hundred dollars (\$8,300) is hereby credited to the District for its 12 April 2011 payment made to the State Water Pollution Cleanup and Abatement Account.
  - b. Six thousand seven hundred dollars (\$6,700) is hereby credited to the District for the emergency actions it has undertaken in the fall of 2010, as described in Attachment A to this Order.
  - c. The remaining liability of three hundred and sixty thousand dollars (\$360,000) shall be permanently suspended pending timely submittal of the reports described below and subsequent completion of the tasks described in this Order.

The end result of a-c, above, will be the expenditure by the Lake Berryessa Resort Improvement District of three hundred and seventy-five thousand dollars (\$375,000) on a combination of penalty payments and collection system or WWTF improvements.

2. By **15 March 2012**, the Discharger shall submit a *Groundwater Monitoring Well Installation Workplan* prepared in accordance with, and including the items listed in, the first section of Attachment B: "*Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports.*" The workplan shall describe the proposed installation of at least two additional groundwater monitoring wells. One of the wells shall be installed north of the proposed land application expansion area to better define background groundwater conditions, and the second well shall be installed south of the proposed land application expansion area. The monitoring wells shall be designed to yield samples representative of the uppermost portion of the first aquifer underlying the site.
3. By **1 June 2012**, the Discharger shall submit a *Rainfall and Flow Monitoring Report* containing the results of the rainfall and flow monitoring data collected during the 2011/2012 wet weather season. The report shall discuss whether or not these results confirm the 2010/2011 flow monitoring program, and how this additional data will be used to evaluate future I/I reduction efforts.
4. By **1 June 2012**, the Discharger shall submit a *Monitoring Well Installation Report* prepared in accordance with, and including the items listed in, the second section of Attachment B. The report shall describe the installation and development of the two new monitoring wells and explain any deviation from the approved workplan.

5. Beginning with the **Second Quarter 2012**, the Discharger shall collect groundwater samples on a quarterly basis from the newly installed groundwater monitoring wells. Groundwater monitoring shall be conducted in accordance with MRP R5-2008-0068, and the results included with the quarterly monitoring reports required by MRP R5-2008-0068.
6. By **15 August 2012**, the Discharger shall submit a *Facility Improvements Funding Report* showing that funding options have been identified to complete the “design condition 3-II” improvements described in the September 2011 Wastewater Facilities Improvement Plan and this Order. The report shall also provide the funding options which the Discharger has chosen to apply for, and the timing of those particular funding cycles.
7. By **1 December 2012**, the Discharger shall submit a *Sewer Collection System Repair Report* that describes completed repairs to the sewer collection system to reduce I/I, and shows that the repairs will result in less than 17.33 million gallons per year of rainfall derived I/I entering the wastewater treatment plant.
8. By **1 February 2013**, the Discharger shall submit a *Report of Waste Discharge* to apply for revised Waste Discharge Requirements. The RWD shall include a completed Form 200 (*Application for Report of Waste Discharge*) and a technical report that addresses all items listed in Attachment C of this Order, “*Additional Information Requirements for a Report of Waste Discharge.*” The Report of Waste Discharge shall include a complete description of the planned facility improvements at the 100 percent design level and demonstrate that the proposed improvements will provide sufficient capacity for the Berryessa Estates Subdivision. The facility improvements shall be completed in meet “design condition 3-II” as described in the Wastewater Facilities Improvement Plan and this Order. Those design conditions are based on the following: (a) a total influent flow of 28.17 million gallons, (b) 17.33 million gallons of rainfall derived I/I entering the wastewater treatment plant, (c) 15.2 acres of total land application area, and (c) a total pond storage volume of 27.1 million gallons.
9. By **1 April 2013**, the Discharger shall provide documentation showing that it has complied with the California Environmental Quality Act (CEQA) for use of the Bournemoth Property.
10. By **1 January 2014**, the Discharger shall submit a letter report certifying that the improvements to increase the storage and disposal capacity of the wastewater facility have been completed and that the facility is fully operational at the 3-II design condition.
11. By **1 February 2014**, the Discharger shall submit a *Wastewater Facilities Improvements Completion Report*. The report shall describe measures taken to increase the storage and disposal capacity and reduce I/I to less than 17.33 million

gallons per year of rainfall derived I/I. In addition, the report shall provide a list of completed tasks and associated costs for each task. If the costs to complete the improvements are less than \$360,000, the Discharger must pay the remaining balance by **1 March 2014**.

12. **Beginning 1 April 2012**, and quarterly thereafter, (i.e., on 1 January, 1 April, 1 July, and 1 October of each year) the Discharger shall submit progress reports describing the work completed to date regarding the tasks described above, as well as the other tasks described in the Wastewater Facilities Improvement Plan, such as funding cycle dates and the progress towards securing the project funding, CEQA compliance, and the Sewer Lateral Replacement Program.
13. As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all reports shall be prepared by, or under the supervision of, a California Registered Engineer or Professional Geologist and signed and stamped by the registered professional.
14. If the Assistant Executive Officer determines that the individual tasks or report submittals are not satisfactorily completed by their respective due dates (including any extensions approved by the Assistant Executive Officer), the Assistant Executive Officer may demand payment of the suspended liability amount still outstanding.
15. If the Discharger fails to take any of the above actions, the Assistant Executive Officer may refer the matter to the State Attorney General for enforcement of the terms of this Order.
16. This Order is final, and shall be effective immediately upon signature.

The Assistant Executive Officer may extend the deadlines contained in this Order if the Discharger demonstrates that unforeseeable contingencies have created delays, provided that the Discharger continues to undertake all appropriate measures to meet the deadlines and makes the extension request at least 30 days in advance of the expiration of the deadline. The Discharger shall make any deadline extension request in writing. Any request for an extension not responded to in writing by the Central Valley Water Board shall be deemed denied. The Discharger must obtain written approval from the Assistant Executive Officer for any significant departures from the tasks described in the Order. Failure to obtain written approval for any significant departures will result in the assessment of the actual cost difference between the portion of the task completed in conformity with the tasks described in the ACLO and the total amount of the suspended penalty.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with CWC section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date that this Order

becomes final, except that if the thirtieth day following the date that this Order becomes final falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

or will be provided upon request.

*Original signed by*

\_\_\_\_\_  
KENNETH D. LANDAU, Assistant Executive Officer

\_\_\_\_\_  
Date

Attachment A: Credit for Emergency Actions

Attachment B: Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports

Attachment C: Additional Information Requirements for a Report of Waste Discharge

gjc//wsw: 5 Mar-12

ATTACHMENT A

Liability Credit for Emergency Actions

<b>Task Descriptions</b>	<b>Liability Credits</b>
Turbo-mist Evaporator Motor Replacement	\$2,400
Fuel for Operation of Turbo-mist Evaporator	\$1,930
Battery for Turbo-mist Evaporator	\$125
Hose for Temporary Sprayfield	\$215
Pipe and Fittings for Temporary Sprayfield	\$390
Labor for Repair of Turbo-mist Evaporator and Setup of Temporary Sprayfield	\$1,640
<b>Total Costs</b>	<b>\$6,700</b>



**California Regional Water Quality Control Board**  
**Central Valley Region**  
**Karl E. Longley, ScD, P.E., Chair**



**Matthew Rodriguez**  
*Secretary for  
Environmental Protection*

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**Edmund G. Brown Jr.**  
*Governor*

**ADMINISTRATIVE CIVIL LIABILITY ORDER NO. R5-2011-0538, REVISION NO. 1**  
**FOR**  
**LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT**  
**WASTEWATER TREATMENT FACILITY**

**ATTACHMENT B**  
**REQUIREMENTS FOR**  
**MONITORING WELL INSTALLATION WORKPLANS AND**  
**MONITORING WELL INSTALLATION REPORTS**

Prior to installation of groundwater monitoring wells, the Discharger shall submit a workplan containing, at a minimum, the information listed in Section 1, below. Wells may be installed after Regional Water Board staff approve the workplan. Upon installation of the monitoring wells, the Discharger shall submit a well installation report which includes the information contained in Section 2, below. All workplans and reports must be prepared under the direction of, and signed by, a professional geologist or civil engineer licensed by the State of California.

**SECTION 1 - Monitoring Well Installation Workplan and  
Groundwater Sampling and Analysis Plan**

The monitoring well installation workplan shall contain the following minimum 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 drainage courses, surface water bodies, 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
  - Soil sampling intervals (if appropriate) and logging methods
- C. Monitoring Well Design (in narrative and/or graphic form):
- Diagram of proposed well construction details
    - Borehole diameter
    - Casing and screen material, diameter, and centralizer spacing (if needed)

***California Environmental Protection Agency***

- 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 shall be included as an appendix to the workplan, and shall be utilized as a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities.

Provide a detailed written description of standard operating procedures for the following:

- 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 workplan.

### **A. General Information:**

Purpose of the well installation project

Brief description of local geologic and hydrogeologic conditions encountered during installation of the wells

Number of monitoring wells installed and copies of County Well Construction Permits

Topographic map showing facility location, roads, surface water bodies

Scaled site map showing all previously existing wells, newly installed wells, surface water bodies, 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

Soil sampling intervals and logging methods

Well boring log

- Well boring number and date drilled
- Borehole diameter and total depth
- Total depth of open hole (same as 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 (in narrative and/or graphic form):**

Well construction diagram, including:

- Monitoring well number and date constructed
- Casing and screen material, diameter, and centralizer spacing (if needed)
- Length of well casing, and length and position of perforated interval
- 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:**

Date(s) and method of development

How well development completion was determined

Volume of water purged from well and method of development water disposal

Field notes from well development should be included in report

### **F. Well Survey (survey the top rim of the well casing with the cap removed):**

MONITORING WELL REQUIREMENTS  
ADMINISTRATIVE CIVIL LIABILITY ORDER NO. R5-2011-0538, REVISION NO. 1  
LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT  
WASTEWATER TREATMENT FACILITY  
NAPA COUNTY

- 4 -

- Identify the coordinate system and datum for survey measurements
- Describe the measuring points (i.e. ground surface, top of casing, etc.)
- Present the well survey report data in a table
- Include the Registered Engineer or Licensed Surveyor's report and field notes in appendix



# California Regional Water Quality Control Board Central Valley Region

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Governor

## ADMINISTRATIVE CIVIL LIABILITY ORDER NO. R5-2011-0538, REVISION NO. 1 FOR LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT WASTEWATER TREATMENT FACILITY

### ATTACHMENT C ADDITIONAL INFORMATION REQUIREMENTS FOR REPORT OF WASTE DISCHARGE

Provide a technical report prepared by a California registered Civil Engineer that presents the following information:

#### A. General Information

1. Is this a new or existing facility?
2. If this is an existing facility, is the discharge currently regulated under Waste Discharge Requirements (WDRs) issued by the Central Valley Water Board?
  - a. If so, provide the WDRs order number.
  - b. If not, provide the name of the local agency that issued the current permit.
3. Provide the following for the facility that generates the waste and the site where the waste is discharged:
  - a. Street address (provide street name and distance from nearest cross street if there is no street number)
  - b. Township, Range, and Section
  - c. Assessor's parcel numbers

#### B. Proposed Facility and Discharge (for new facilities only)

1. A description of the sources and types of wastewater flowing into the system from:
  - a. residential (population served and number of connections or equivalent dwelling units)
  - b. commercial (number of connections by type)
  - c. industrial (number of connections by type)
2. Design influent flow rates (average daily, dry weather daily, peak hour, peak day, and peak month), and the design treatment capacity of the system with respect to each of these. Discuss the methods used to estimate these design parameters.
3. A description of all proposed wastewater conveyance, treatment, and disposal systems. Use site plans and conceptual drawings as appropriate to illustrate locations and typical construction.

4. The following maps, plans, and illustrations:
  - a. A facility location map showing local topography, the facility location and/or boundaries, streets, and surface waters;
  - b. A process flow diagram for the entire treatment and disposal system;
  - c. A scaled treatment plant site plan;
  - d. A scaled map showing the limits of all proposed wastewater treatment and effluent storage and disposal areas.
5. Chemical characterization of the drinking water supply, including total dissolved solids; electrical conductivity, standard minerals (boron, bromide, calcium, chloride, fluoride, magnesium, phosphate, potassium, sodium, sulfate, alkalinity series, and hardness), and metals (aluminum, arsenic, cadmium, copper, lead, iron, manganese, nickel, and zinc). Include supporting analytical data.
6. Expected treatment system influent quality and effluent quality at the point of discharge to the disposal system (BOD, total suspended solids, settleable matter, total dissolved solids, sodium, chloride, nitrogenous compounds, fixed dissolved solids, electrical conductivity, pH, and total coliform organisms). Discuss the methods used to estimate these parameters.
7. A description of the proposed sewer system, materials and lift station details (type, location, capacity, backup systems, and alarm features). Provide a scaled plan of all proposed conveyance systems and discuss potential inflow and infiltration (I/I) rates in light of local groundwater conditions and sewer system materials/design.
8. A description of proposed alarm systems, emergency wastewater storage facilities, and other means of preventing system bypass or failure during reasonably foreseeable overload conditions (e.g., peak flows, power failure, sewer blockage). Consider both potential problems at the plant and within the sewer system.
9. For debris, grit and screenings, sludge, and biosolids the following:
  - a. A description of expected solids generation rates and handling/storage procedures; and
  - b. A description of proposed solids disposal practices.
10. For each wastewater treatment, storage, or disposal pond and containment structure, provide the following information:
  - a. Identification (name) and function of the pond;
  - b. Surface area, depth, and volumetric capacity at two feet of freeboard;
  - c. Height (relative to surrounding grade), crest width, interior slope, and exterior slope of each berm or levee;
  - d. Materials used to construct each berm or levee;
  - e. Description of engineered liner, if any;

- f. Estimated steady state percolation rate for each unlined pond;
  - g. Depth to shallow groundwater below the base;
  - h. Overfilling/overflow prevention features; and
  - i. Operation and maintenance procedures.
11. For proposed subsurface disposal systems, provide the design basis and documentation demonstrating that the system has been designed in accordance with applicable regulations, codes, ordinances, and guidelines. If the design deviates from these requirements, provide justification in terms of system longevity, maintainability, and groundwater protection.
12. If treated domestic effluent will be recycled for landscape irrigation or other beneficial reuse, provide a complete description the proposed discharge including:
- a. Effluent disinfection system;
  - b. Reclaimed water conveyance systems;
  - c. Water reclamation areas;
  - d. Cropping plans;
  - e. Planned reclamation operations (planting and harvest, irrigation method, irrigation frequency, irrigation amounts);
  - f. Expected nutrient loadings (pounds per acre per year total nitrogen);
  - g. Expected salt loadings (pounds per acre per year total dissolved solids);
  - h. Tailwater management methods;
  - i. Storm water runoff management methods; and
  - j. Plans that illustrate items 12.b, 12.c, 12.h, and 12.j.

Note: A Title 22 Engineering Report is required only if the wastewater will be recycled to grow crops. To the extent this information is already presented in the Title 22 Engineering Report, the RWD may incorporate that report by reference. The Title 22 Engineering Report must also be submitted to the California Department of Public Health for review and approval.

13. Projected monthly water balances demonstrating adequate containment capacity for both the average rainfall year and the 100-year return period total annual precipitation, including consideration of at least the following.
- a. Initial baseline influent and I/I flows as well as baseline influent and I/I flows at full build out with an aging sewer system.
  - b. A minimum of two feet of freeboard in each pond at all times (unless a registered civil engineer determines that a lower freeboard level will not cause overtopping or berm failure);
  - c. Historical local evapotranspiration, pan evaporation, and lake evaporation data (monthly average values);

- d. Local precipitation data with the 100-year return period annual total distributed monthly in accordance with mean monthly precipitation patterns;
  - e. Proposed reclamation area/disposal system loading rates distributed monthly in accordance with expected seasonal variations based on crop evapotranspiration rates; and
  - f. Projected long-term percolation rates (including consideration of percolation from unlined ponds and the effects of solids plugging on all ponds).
14. Proposed flow limits and basis for the limit. Consider dry weather flows vs. peak flows and seasonal variations. Include the technical basis for the proposed flow limit (e.g., design treatment capacity; hydraulic capacity of a main lift station, headworks, or other system element; and demonstrated effluent disposal capacity).
15. A narrative description of plant operation and maintenance procedures to be employed, including those associated with effluent storage and disposal.

### **C. Existing Facility and Discharge**

1. A description of the sources and types of wastewater flowing into the system, design flow rates (average daily, dry weather daily, peak hour, peak day, and peak month), and the design capacity of the system with respect to each of these.
2. A summary table of monthly influent flow totals and monthly precipitation totals for the last five years. Explain any data gaps, outliers, and/or unusual circumstances that might affect measured flow rates. If I/I contributes significantly to influent flow, provide an I/I analysis to project I/I as a function of precipitation and/or groundwater level as appropriate.
3. A detailed description of the facilities that will generate wastewater, and all existing and proposed wastewater conveyance, treatment, and disposal systems. Use site plans and conceptual drawings as appropriate to illustrate locations and typical construction.
4. A process flow diagram, scaled treatment plant site plan, and a scaled map showing the limits of all existing and proposed wastewater treatment and effluent storage and disposal areas.
5. Chemical characterization of the drinking water supply, including total dissolved solids; standard minerals (boron, bromide, calcium, chloride, fluoride, magnesium, phosphate, potassium, sodium, sulfate, alkalinity series, and hardness), and metals (aluminum, arsenic, cadmium, copper, lead, iron, manganese, nickel, and zinc). Include supporting analytical data. For public water supply systems, provide the last three years of Consumer Confidence Reports.
6. Influent quality and effluent quality at the point of discharge to the disposal system (BOD, total suspended solids, settleable matter, total dissolved solids, sodium, chloride, nitrogenous compounds, electrical conductivity, pH, and total coliform organisms). Include a summary table of all data obtained in the last five years.

7. A description of the existing sewer system, materials and lift station details (type, location, capacity, backup systems, and alarm features). Provide a scaled plan of all existing and proposed conveyance systems.
8. A description of existing emergency wastewater storage facilities or other means of preventing system bypass or failure during reasonably foreseeable overload conditions (e.g., peak flows, power failure, sewer blockage). Consider both potential problems at the plant and within the sewer system.
9. For debris, grit and screenings, sludge, and biosolids the following:
  - a. A description of expected solids generation rates and handling/storage procedures; and
  - b. A description of proposed solids disposal practices.
10. For each pond and other waste containment structure, provide the following information:
  - a. Identification (name) and function of the pond;
  - b. Surface area, depth, and volumetric capacity at two feet of freeboard;
  - c. Height (relative to surrounding grade), crest width, interior slope, and exterior slope of each berm or levee;
  - d. Materials used to construct each berm or levee;
  - e. Description of engineered liner, if any;
  - f. Estimated steady state percolation rate for each unlined pond;
  - g. Depth to shallow groundwater below the planned base of the ponds;
  - h. Overfilling/overflow prevention features; and
  - i. Operation and maintenance procedures.
11. For subsurface disposal systems, provide documentation demonstrating that the system has been designed in accordance with applicable regulations, codes, ordinances, and Guidelines. If the design deviates from these requirements, provide complete justification in terms of system longevity, maintainability, and groundwater protection.
12. If treated effluent is currently recycled for landscape irrigation or other beneficial reuse, provide a complete description the discharge including:
  - a. Effluent disinfection system;
  - b. Reclaimed water conveyance systems;
  - c. Water reclamation areas;
  - d. Cropping plans;
  - e. Typical reclamation operations (planting and harvest, irrigation method, irrigation frequency, irrigation amounts);

- f. Nutrient loadings for each of the last five years (pounds per acre per year total nitrogen);
- g. Salt loadings for each of the last five years (pounds per acre per year fixed or total dissolved solids);
- h. Tailwater management methods; and
- i. Storm water runoff management methods.

Is reclamation performed pursuant to an approved Title 22 Engineering Report? If not, a Title 22 Engineering Report is required if the wastewater is recycled to grow crops. If required, the Title 22 Engineering Report must also be submitted to the California Department of Public Health separately for review and approval.

13. Projected monthly water balances demonstrating adequate containment capacity for both the average rainfall year and the 100-year return period total annual precipitation, including consideration of at least the following.
- a. Current baseline influent and I/I flows as well as baseline influent and I/I flows at full build out with an aging sewer system.
  - b. A minimum of two feet of freeboard in each pond at all times (unless a registered civil engineer determines that a lower freeboard level will not cause overtopping or berm failure);
  - c. Historical local pan evaporation data (monthly average values);
  - d. Local precipitation data with the 100-year return period annual total distributed monthly in accordance with mean monthly precipitation patterns;
  - e. Proposed reclamation area/disposal system loading rates distributed monthly in accordance with expected seasonal variations based on crop evapotranspiration rates; and
  - f. Projected long-term percolation rates (including consideration of percolation from unlined ponds and the effects of solids plugging on all ponds).
14. Proposed flow limits and basis for the limit. Consider dry weather flows vs. peak flows and seasonal variations. Include the technical basis for the proposed flow limit (e.g., design treatment capacity; hydraulic capacity of a main lift station, headworks, or other system element; and demonstrated effluent disposal capacity).
15. A narrative description of plant operation and maintenance procedures to be employed, including those associated with effluent storage and disposal.

**D. Planned Changes in the Facility and Discharge (for existing facilities only)**

- 1. Describe in detail any and all planned changes in the facility or discharge, addressing each of items listed in C.1 through C.15 above.

**E. Local and Site-Specific Conditions (Illustrate with maps as appropriate)**

- 1. Neighboring land uses.

2. Typical crops grown (if agricultural area).
3. Primary irrigation water source (if agricultural area).
4. Terrain and site drainage features.
5. Nearest surface water drainage course.
6. FEMA floodplain designation(s).
7. Average Annual precipitation (inches)
8. 100-year 365-day precipitation (inches)
9. Reference evapotranspiration (monthly and annual total)
10. Pan evaporation (monthly and annual total)
11. A description of the types and depths of soil underlying ponds and/or effluent disposal areas (include a copy of the geotechnical report and/or NRCS soil report).

#### **F. Groundwater Conditions**

1. Description of the site hydrogeology including stratigraphy, groundwater elevation and gradient, transmissivity, and influence of all recharge and pumping sources (i.e., a site conceptual model).
2. What is the groundwater elevation and gradient at the existing facility?
3. What is background shallow groundwater quality for typical domestic waste constituents?
4. What are subsurface conditions at the proposed new disposal site(s)?<sup>1</sup>
5. What is the character of groundwater quality at the proposed new disposal site(s) with respect to total dissolved solids, major ions, nitrogenous compounds, electrical conductivity, pH, and total coliform organisms?

#### **G. Antidegradation Analysis**

The State Water Resources Control Board Resolution No. 68-16 (the Antidegradation Policy) requires that the Central Valley Water Board maintain the high quality of waters of the state until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the state, will not unreasonably affect beneficial uses, and will not result in exceedances of one or more water quality objectives. If a discharge will degrade groundwater quality but not cause exceedance of one or more water quality objectives, the discharger must demonstrate that all feasible best practicable treatment and control (BPTC) measures have been implemented or will be implemented to justify allowing the current level of degradation to continue or increase (as applicable), or allowing any degradation in the case of a new discharge.

1. Provide a technical report by a Professional Geologist or Certified Hydrogeologist that provides an assessment of the following:

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<sup>1</sup> This must be based on at least one groundwater monitoring event. If permanent monitoring wells will be installed to obtain this data, a workplan must first be approved.

- Description of the geology and hydrogeology of the area;
- Groundwater quality at the site and any wastewater disposal site(s);
- For existing facilities, whether the discharge has caused degradation. If so, for which constituents, to what degree, and whether the discharge has caused exceedance of a water quality objective.
- The potential for the discharge to degrade groundwater quality (for new discharges) or further degrade groundwater quality (for existing discharges, whether or not the discharge is expanding).

The assessment must be made based on site-specific data and shall include the following items:

- a. Characterization of all waste constituents to be discharged that have the potential to degrade groundwater quality;
- b. Characterization of shallow groundwater quality (i.e., the uppermost layer of the uppermost aquifer) for typical waste constituents<sup>2</sup> upgradient and downgradient of the site and comparison to established water quality objectives<sup>3</sup> (include tabulated historical groundwater monitoring data and groundwater elevation contour maps for the last eight monitoring events);
- c. A description of the geology and hydrogeologic conditions of the site including groundwater elevation and gradient, transmissivity, influence of all known recharge and pumping sources, and subsurface conditions at the facility, including any proposed new disposal site or storage ponds;
- d. Groundwater degradation, if any, that has resulted from existing operations, other nearby discharges, or natural occurrences;
- e. The extent the discharge has impacted or will impact the quality of the shallow groundwater, if any;
- f. The expected degree of degradation, if any.
- g. If degradation has occurred or is expected to occur describe the following:
  - i. Any facility design features and operational practices that reduce the potential for groundwater degradation (best practicable treatment and control). Such features might include salinity source control, other pollutant source control, advanced treatment, disinfection, concrete treatment structures, and pond lining systems;

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<sup>2</sup> Include analyses for the following: total coliform organisms, total dissolved solids, fixed dissolved solids, electrical conductivity, nitrate nitrogen, total nitrogen, and an anion/cation scan.

<sup>3</sup> Compare to drinking water standards and Basin Plan numeric water quality objectives.

- ii. Additional best practicable treatment and control (BPTC) measures that could be implemented and a preliminary capital and annual operations and maintenance cost estimate for each;
- iii. How current treatment and control measures are justified as BPTC (i.e., what justifies not implementing additional BPTC measures);
- iv. How no water quality objectives will be exceeded; and
- v. Why allowing existing and/or anticipated degradation is in the best interest of the people of the state.

## H. Water Recycling Regulatory Compliance (Title 22, CCR)

### I. Compliance With Other Applicable Laws and Regulations

1. **California Environmental Quality Act (CEQA).** Is the project that will create or significantly change the wastewater treatment and disposal facility subject to CEQA review? If not, provide a written determination from the local planning agency. If so, provide a copy of the final certified CEQA document.
2. **Industrial Storm Water Permit.** The State Water Resources Control Board adopted Order No. 97-03-DWQ (NPDES General Permit No. CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all affected industrial dischargers. Some wastewater treatment facilities are required to obtain coverage under this permit. Provide evidence that the facility is exempt or has applied for coverage under the Industrial Storm Water Permit.
3. **General WDRs for Sanitary Sewer Systems.** State Water Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems General Order No. 2006-0003-DWQ. The permit requires all public agencies that own or operate sanitary sewer systems greater than one mile in length to obtain coverage. Provide evidence that the facility is exempt or has applied for coverage under the General WDRs for Sanitary Sewer Systems.
4. **Department of Water Resources Well Standards.** California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), 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 Section 13801, apply to all monitoring wells. Discuss whether existing monitoring wells at the facility were constructed in accordance with the Department of Water Resources Well Standards.