

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2009-0077

CEASE AND DESIST ORDER
REQUIRING
NEVADA COUNTY SANITATION DISTRICT NO. 1
PENN VALLEY WASTEWATER TREATMENT FACILITY
NEVADA COUNTY

TO CEASE AND DESIST
FROM DISCHARGING CONTRARY TO REQUIREMENTS

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

1. Nevada County Sanitation District (hereafter Discharger) owns and operates the Penn Valley Wastewater Treatment Facility (WWTF).
2. The WWTF is regulated by Waste Discharge Requirements (WDRs) Order 5-01-210, adopted by the Central Valley Water Board on 6 September 2001. This Order included requirements for the submittal of certain reports pertaining to wastewater treatment and control measures, wastewater disinfection, and groundwater monitoring.
3. The WWTF is located approximately one mile from the town of Penn Valley in Sections 4 and 9, T15N, R7E, MDB&M.
4. The purpose of this Cease and Desist Order (CDO) is to address capacity problems at the WWTF which are related in part to high groundwater levels within the disposal areas, inflow and infiltration from leaking sewer laterals from homes, and from the collection and retention of storm water runoff from the disposal areas. In addition, the CDO addresses the need to disinfect effluent because of the lack of storage capacity and the inability to manage storm water to prevent runoff during the irrigation periods.

Wastewater Treatment Facility

5. The WWTF currently serves 458 Equivalent Dwelling Units (EDUs) in the town of Penn Valley and surrounding areas and consists of a septic tank effluent pump (STEP) system. Of these EDUs, 347 are active connections and 111 are standby connections. Standby connections are those sewer connections for which the property owners pay annual fees to the District for the ability to connect at any time. Each residence and business has an individual septic tank equipped with a small pump. The septic tanks provide the primary treatment. The wastewater from each tank is pumped into a pressurized sewer system to a lift station. From the lift station, the influent is pumped to the Wastewater Treatment Plant (WWTP).
6. The WWTP consists of two lined aerated lagoons, which may be operated in series or in parallel. Effluent from the aerated lagoons travels via gravity to a storage reservoir. The reservoir effluent is used for onsite spray irrigation on approximately 33 acres of pasture

land used for the cattle grazing. There is no disinfection of wastewater prior to being applied to the pasture area.

7. The WDRs prescribe requirements for the treatment and disposal of a monthly average dry weather flow not to exceed 89,700 gallons per day (gpd).

Violations of Waste Discharge Requirements

8. The Discharger violated its WDRs in the spring of 2006 by applying wastewater to land application areas during storm events. This was done to prevent overtopping of the storage reservoir. These violations are discussed below.
9. Discharge Specification B.9 of the WDRs states: *"All tailwater shall be collected and returned to the storage reservoir when wastewater is being applied to the irrigation area. Wastewater application shall cease 48 hours prior to an anticipated storm event and shall resume 48 hours after a storm event. Wastewater application may resume at any time when weather conditions permit and full tailwater control is in effect."* In letters dated 8 March and 10 May 2006, the Discharger indicated that due to excessive rainfall beginning in January 2006 that they were not able to apply wastewater to the land application areas and therefore could not reduce the level in the storage reservoir. In addition, the Discharger stated that the STEP systems serve homes that are in an area with high groundwater levels. Leaking sewer laterals from these homes contributed to the high winter flows. Because of the lack of capacity in the storage reservoir and the probability of overtopping the reservoir, the Discharger applied wastewater to the land application areas during periods of rainfall on 16 days between 8 March and 2 May 2006, in violation of Discharge Specification B.9. The Discharger indicated that there was no wastewater runoff from the land application areas associated with the irrigation.
10. Discharge Specification B.23 of the WDRs states: *"The aerated lagoons and storage reservoir freeboard shall never be less than two feet (measured vertically to the lowest point of overflow).* Between 8 March and 2 May 2006, the freeboard in the storage reservoir was less than two feet on each day that it was measured over a 50-day period, in violation of Discharge Specification B.23. Monthly average flows during this period ranged from 62,000 to 120,000 gallons per day (gpd). Peak average wastewater flows ranged from 81,000 to 234,000 gpd. The highest monthly flow was reported in April 2006.
11. On 15 August 2006, a Notice of Violation (NOV) was issued to the Discharger for the violations described in Findings 9 and 10. The NOV required the Discharger to submit a water balance prepared by a California Registered Engineer to evaluate the wastewater treatment, storage and disposal capacity and the ability of the ponds to maintain two feet of freeboard on a month-by-month basis.
12. On 29 September 2006, the Discharger submitted a water balance using influent flow data from October 2005 through June 2006 to determine why the reservoir did not have enough storage to maintain two-feet of freeboard during the 2005/2006 wet season. The Discharger indicated that the 2005/2006 wet season represented approximately a 1-in-10

year precipitation event and that to avoid overtopping of the storage reservoir that approximately 11.8 million gallons of wastewater was discharged to the land application areas between 8 March and 2 May 2006. In summary, the Discharger's water balances indicated a lack of storage capacity for both 1-in-10 year and 1-in-100 year precipitation conditions assuming an inflow and infiltration pattern similar to the 2005/2006 water year.

13. To further access the wastewater capacity issues that were identified in the September 2006 water balance, the Discharger submitted revised water balances on 30 March 2009 using 2005 through 2008 influent flow data. In summary, the water balances show that the WWTF has adequate storage capacity for an average dry weather flow (June through September) of 59,970 to 64,643 gpd. However, at the currently permitted average dry weather flow (ADWF) of 89,700 gpd, there is inadequate storage capacity. The water balance is based on 100 year annual precipitation data, and a maximum reservoir storage volume of 14.2 million gallons with two feet of freeboard, a beginning storage volume in October of each years of 0.1 million gallons or less, and applying wastewater to approximately 33 acres of pasture land.

Proposed Capacity Improvements

14. On 19 March 2008, the Discharger submitted a report titled *Penn Valley Wastewater Treatment Plant Improvement Project Facility Plan (Phase 1A)*. The report provides alternatives that were evaluated to address capacity issues at the facility and meet the requirements in the WDRs. Those alternatives include: (a) increasing the storage capacity by reshaping the reservoir and re-grading the existing slopes using a 3:1 side slope, (b) installing subsurface drip irrigation on a portion of the existing spray application areas to allow for year round wastewater discharge, (c) installing subsurface drip irrigation on other lands near the facility, and (d) making improvements to the existing spray irrigation system.
15. Of the alternatives described in the above Finding, the Discharger proposes to use approximately 5.5 acres of the existing spray application area for subsurface drip disposal in order to accommodate wastewater flows for up to 458 EDUs. Because of the thin soil profiles overlying the bedrock, the Discharger plans to install the subsurface drip irrigation system in trenches at depths ranging from four to six inches below grade following removal of any existing vegetation. Following installation of the subsurface drip disposal tubing, imported fill material consisting predominately of granular soils would then be placed as necessary to provide a minimum soil cover of approximately eight inches thick. Finally, the disposal areas would be re-vegetated with a suitable pasture seed mix.
16. The schedule provided in the *Phase 1A* report to complete the proposed improvements spans a seven-year period. However, Water Board staff believes that the proposed two-year schedule to complete the task to secure project funding can overlap with some of the other tasks. This Order requires that the facility improvements be completed in approximately five years from the date of adoption of this Order, and be documented by the Discharger in a *Facilities Improvement Construction Completion Report*.

Wastewater Disinfection Requirements

17. The WDRs included requirements pertaining to the disinfection of the effluent from the storage reservoir prior to irrigation. A discussion regarding those requirements and reasons for disinfection are presented below.
18. Provision E.1.b of the WDRs Order 5-01-210 states: The Discharger shall: *"Submit by **1 January 2002** a work plan, which outlines the method by which the Discharger will disinfect the wastewater effluent or irrigation application area to achieve the effluent limits on total coliform of 23 MPN/100 ml monthly median and 240 MPN/100 ml daily maximum or demonstrate that that the proposed disinfection method(s) will protect human health and water quality protection in the event of storm water run off. The disinfection work plan shall include the disinfection schemes during the dry and wet seasons and implementation schedule. This plan shall be reviewed and approved by DHS. The approved disinfection alternative(s) shall be implemented by **15 March 2003.**"*
19. Provision E.1.c of the WDRs Order 5-01-210 states: *"If it is the Discharger's intention to continue to graze cattle in the irrigation area, then a Title 22 Engineering Report shall be submitted to DHS and the Board for review and approval by **1 August 2002**. Cattle may be grazed until this compliance date. If the report is not submitted and approved by **1 January 2003**, then in accordance with Title 22 the Discharger will be prohibited from grazing cattle in the irrigation disposal area."*
20. Following a meeting in October 2001 with Central Valley Water Board staff and the Department of Public Health Services (DPHS) to discuss disinfection alternatives, the Discharger concluded in its 17 December 2001 letter that the treatment facility had been operated for eleven years with no apparent adverse human pathogen affects to downstream properties because there was no runoff of wastewater from the pasture areas. Based on this, the Discharger proposed a study to assess whether vegetated buffer strips below the irrigated pastures could remove or reduce bacterial indicators and possibly reduce other microbes from pasture runoff during winter rainfall. In a 1 February 2002 response, Central Valley Water Board staff stated that the letter did not include a disinfection work plan as required by the WDRs. In addition, Board staff indicated that they were not in the position to approve or reject any additional studies that the Discharger performs, however, to ensure compliance with the WDRs, a disinfection work plan as required by Provision E.1.b needed to be submitted.
21. On 23 April 2002, the Discharger submitted a letter stating that disinfection may not be required because of the following reasons:
 - a. The land application areas have complete tailwater controls with the wastewater returned to the WWTP, and therefore, no wastewater reaches the watershed from this treatment facility.
 - b. All stormwater that falls during the irrigation season along with any excess treated wastewater is returned to the storage reservoir.

- c. The storage reservoir has adequate storage so that the land application areas are not irrigated during the wet season.
 - d. Recycled wastewater used for surface irrigation of fodder and fiber crops and pasture for animals not producing milk for human consumption is allowed under Title 22.
22. On 3 September 2002, the DPHS accepted a 1 August 2002 Title 22 Engineering Report with the understanding that the treated secondary recycled water would be used to irrigate pasture for beef grazing with restricted access of the site. In addition, the Department of Public Health Services stated that (a) no milk producing cows used for human consumption would be grazed at the site, (b) irrigation would only occur during the dry summer months and if rain storms were in the forecast that irrigation was not allowed, and (c) if rain storms occur during the irrigation season that all storm water would be pumped to the storage reservoir.
23. Based on information provided in the Discharger's 23 April 2002 letter, and a 3 September 2002 letter from DPHS approving the Title 22 Engineering Report as described above, the Central Valley Water Board did not followup on the disinfection requirement. However, the conditions stated in the 23 April 2002 letter from the Discharger (see Finding 21) do not reflect current site conditions. In particular, conditions in the spring of 2006 demonstrated that the WWTF was unable to contain all of its storm water because of the lack of storage capacity. In addition, staff considers that disinfection is necessary because the thin soil profiles overlying the bedrock at the proposed subsurface disposal areas offer little opportunity for retention and deactivation of pathogens during infiltration. Soils may also become saturated during the wet months, resulting in the potential for migration of inadequately treated wastewater into usable surface waters or groundwater. This Order provides the Discharger with a schedule to install and operate an appropriate wastewater disinfection system to ensure compliance with the Total Coliform Organisms Effluent Limitations in the WDRs. However, this Order also provides an option for the Discharger to demonstrate that disinfection is not necessary to protect water quality and beneficial uses. The Discharger's technical report, if approved, would be the basis for amending WDRs to revise the disinfection requirement.

Regulatory Considerations

24. As a result of the events and activities described in this Order, the Central Valley Water Board finds that the Discharger has discharged, and has the potential to discharge, waste in violation of WDRs 5-01-210.
25. Surface water drainage from the facility is to Tarr Ditch, a tributary to Little Dry Creek, thence the Bear River. The beneficial uses of the Bear River, as stated in the Basin Plan, are municipal and domestic supply; agricultural supply; power generation; water contact recreation; noncontact water recreation; warm freshwater habitat; cold freshwater habitat;

migration of aquatic organisms; spawning, reproduction and/or early development of warm and cold freshwater aquatic organisms; and wildlife habitat.

26. The beneficial uses of underlying groundwater, as stated in the Basin Plan, are municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.
27. CWC section 13301 states, in part: *"When a regional board finds that a discharge of waste is taking place or threatening to take place in violation of the requirements or discharge prohibitions prescribed by the regional board or the state board, the board may issue an order to cease and desist and direct that those persons not complying with the requirements or discharge prohibitions (a) comply forthwith, (b) comply in accordance with a time schedule set by the board, or (c) in the event of a threatened violation, take appropriate remedial or preventive action."*
28. CWC section 13267(b) (1) states: *"In conducting an investigation specified in subdivision (a), the regional 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 regional 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 regional 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."*
29. The required technical reports are necessary to assure compliance with WDRs Order 5-01-210 and this Order, and to assure protection of public health and safety. The Discharger owns and operates the facility that discharges the waste subject to this Order.
30. The issuance of this Order is for an enforcement action by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act (CEQA) (Pub. Resources Code, section 21000 et seq.), pursuant to California Code of Regulations, title 14, section 15321(a)(2). The implementation of this Order is also an action to assure the restoration of the environment and is exempt from the provisions of the CEQA in accordance with California Code of Regulations, title 14 sections 15307 and 15308. The issuance of this Order is for an existing facility and authorizes negligible or no expansion of use, and is also exempt from provisions of CEQA, pursuant to California Code of Regulations, title 14, section 15301.
31. On 13 August 2009, in Rancho Cordova, California, after due notice to the Discharger and all other affected persons, the Central Valley Water Board conducted a public hearing at which evidence was received to consider a Cease and Desist Order.

32. 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 of this Order, except that if the thirtieth day following the date of this Order 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 or will be provided upon request

IT IS HEREBY ORDERED that pursuant to Sections 13301 and 13267 of the California Water Code, Nevada County Sanitation District No. 1, its agents successors, and assigns, shall implement the following measures necessary to ensure long-term compliance with WDRs 5-01-210, or any superceding permits or orders issued by the Central Valley Water Board.

Any person signing a document submitted under this Order shall make the following certification:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

1. The Discharger shall comply with all aspects of WDRs Order 5-01-210, except for Discharge Specification B.15, which states: "*Recycled water applied to the irrigation area shall be disinfected to protect human health and surface waters from the release of storm water from the irrigation area. The Disinfection method shall be reviewed and approved by DHS and the Executive Officer. Provision E.1.b outlines a compliance schedule for the implementation of the disinfection method(s).*"
2. Effective immediately, the average monthly (June through September) dry weather inflow to the wastewater treatment plant shall not exceed 0.060 million gallons per day, and the annual inflow measured from October through September of each year shall not exceed 30.3 million gallons. This flow limit may be increased incrementally by the Executive Officer upon the submittal and approval of a technical report showing the improvements completed to increase storage and disposal capacity. The report shall contain a water balance supporting the requested flow increase. By **1 October** of each year, the storage reservoir capacity shall be at least equal the volume necessary to comply with the annual inflow.
3. By **1 October 2009**, the Discharger shall submit and implement a *Spill Contingency Plan* containing interim measures necessary for preventing unauthorized discharges of wastewater to surface waters and surface water drainage courses. The Plan shall remain in effect until all improvements to the WWTF are completed. The plan at a minimum shall consider options including, but not limited to: operational adjustments to draw down

reservoir levels, sandbagging the reservoir berms, enhanced evaporation, water conservation measures, trucking of effluent to another properly permitted facility, or any other short-term measures to prevent discharges to surface waters. The plan must identify the selected alternatives, and for each alternative, specify all necessary materials, staffing, and equipment required for implementation.

4. By **1 February 2010**, the Discharger shall implement an ordinance to require maintenance and pressure testing of the private laterals connected to the wastewater system. The purpose of this ordinance is to reduce inflow and infiltration into the collection system.
5. By **1 February 2010**, the Discharger shall submit a *Revenue Plan* that describes the costs associated with implementation of all tasks in this Order. The plan must show whether the Discharger has necessary funds to implement all tasks. Should the Revenue Plan show that there are inadequate funds, the Discharger must include an implementation schedule that shows how the Discharger will raise the necessary funds.
6. By **1 September 2011**, the Discharger shall submit a complete *Facilities Improvement Design Report* describing all modifications that will be completed to the Penn Valley WWTF to ensure compliance with WDRs 5-01-210. The report shall include a design for an appropriate wastewater disinfection system to ensure compliance with the Total Coliform Organisms Effluent Limitations in the WDRs. If the Discharger considers disinfection unnecessary to protect water quality and designated beneficial uses, then the Discharger shall provide scientific justification in its technical report to explain why disinfection requirement should be revised. The justification must be based on site-specific conditions and be sufficiently detailed to support revision of the disinfection requirements in the facility's WDRs. The report shall contain a time schedule for all of the improvements that shall not extend beyond **1 August 2014**.
7. **Within 60 days** of Board staff's written approval of the *Facilities Improvement Design Report*, the Discharger shall submit a Report of Waste Discharge (RWD) to allow for revised WDRs to reflect the improvements to the Penn Valley Wastewater Treatment Facility.
8. By **1 September 2014**, the Discharger shall submit a *Facilities Improvement Construction Completion Report*. The report must certify that all construction and necessary modifications have been made to the Penn Valley WWTF.
9. **Beginning 1 November 2009**, and by the first day of the second month following each calendar quarter (i.e., by **1 February, 1 May, 1 August, and 1 November each year**), the Discharger shall submit a progress report describing the work completed to date regarding each of the reporting requirements described above.

In addition to the above, the Discharger shall comply with all applicable provisions of the California Water Code that are not specifically referred to in this Order.

All technical reports 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. As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

Failure to comply with this Order may result in the assessment of an Administrative Civil Liability up to \$1,000 or up to \$10,000 per day of violation, depending on the violation, pursuant to the California Water Code, including Sections 13268, 13350, and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

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 13 August 2009.



PAMELA C. CREEDON, Executive Officer