

**ATTACHMENT B
REQUIREMENTS FOR REPORT OF WASTE DISCHARGE
FOR DISCHARGE OF TREATED GROUNDWATER FROM EXPANDED GROUNDWATER
EXTRACTION AND TREATMENT SYSTEM**

The content of the Report of Waste Discharge (RWD) depends on the method of effluent disposal: discharge to surface waters or discharge to land. The permit application/RWD shall include all of the information described below.

Surface Water Discharge (NPDES) Permit

If discharge to surface waters is proposed, the discharge will require a National Pollutant Discharge Elimination System (NPDES) permit. Order No. R5-2008-0082 (NPDES Permit No. CAG995002), Waste Discharge Requirements for Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, etc., may be applicable. A copy of this permit may be obtained from the Central Valley Regional Water Board's website at:

http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2008-0082.pdf

The following is required to apply for coverage under Order No. R5-2008-0082:

1. Sampling and analysis of the effluent in accordance with Attachment B of Order No. R5-2008-0082 (Screening Requirements for All Limited Threat Discharges);
2. Sampling and analysis of the effluent in accordance with Attachment C of Order No. R5-2008-0082 (Screening Requirements for Discharges to Specific Waterbodies, Section III);
3. Completed application Forms and all other information specified in Attachment G of Order No. R5-2008-0082 (Application Requirements)
4. Submittal of the required application fee pursuant to Title 23 of the California Code of Regulations, section 2200(b)(9) for a Category 2 discharge (plus applicable surcharges).

Land Discharge Permit

If Discharge to land is proposed, individual waste discharge requirements (WDRs) or an individual waiver of WDRs is required. The following is required to apply for WDRs or a waiver:

1. A completed RWD Form (Form 200, which is available on the Central Valley Water Board's website at:

http://www.waterboards.ca.gov/publications_forms/forms/docs/form200.pdf

2. Submittal of the required application fee pursuant to Title 23 of the California Code of Regulations, section 2200(a) for a Threat and Complexity rating of 3B (plus applicable surcharges).
3. A technical report prepared by a California-registered Professional Engineer that describes the discharge to satisfy the requirements of Sections VI and VII of Form 200. The technical report shall include the following information at a minimum.

Requirements for Technical Report for Land Discharge RWD

The technical report must include at least the following information:

1. One or more scaled site plans showing all structures, proposed waste containment ponds/structures, the groundwater treatment system, proposed land disposal areas, treated groundwater piping systems, and site drainage features.
2. A scaled map showing the site vicinity (including topography, roads, surface waters, etc.).
3. A description of the source of groundwater flowing into the treatment system, design flow rates, and the design capacity of the system (current and proposed).
4. Chemical characterization of groundwater quality prior to treatment based on recent analyses of representative samples¹. Include a discussion of seasonal variations, if any, and supporting analytical data.
5. A complete description of all groundwater water treatment processes employed.
6. A list of all chemicals used for treatment that might be present in treated groundwater. Where applicable, provide chemical reactions and reaction products that might be present in the waste.
7. A process flow diagram, showing all unit processes, chemical inputs, and waste outputs for the groundwater treatment system.
8. The quantity of filter backwash and sludge generated (gallons per day and percent total solids), if any.
9. Chemical characterization of the filter backwash and any other treatment residuals that will be discharged to land based on recent analyses of representative samples². Include supporting analytical data.
10. For each storage/disposal pond and other effluent containment structure, provide the following information:
 - a. Identification (name) and function of the pond or structure;
 - b. Surface area, depth, and volumetric capacity (at two feet of freeboard for ponds);
 - c. For ponds: height relative to surrounding grade, crest width, interior slope, and exterior slope of each berm or levee;

¹ Including at least the following: all known or suspected groundwater contaminants, pH, hardness, alkalinity (by species), total dissolved solids, total suspended solids, total coliform organisms, aluminum, ammonia, arsenic, boron, bromide, cadmium, calcium, chloride, chromium, copper, fluoride, iron, lead, magnesium, manganese, mercury, nickel, nitrate, nitrite, phosphorus, phosphate, potassium, silver, sodium, sulfite, sulfate, and zinc.

² Including at least the above-listed constituents plus any other that might be present due to the treatment processes employed at the facility.

- d. Materials used to construct each berm or levee;
 - e. Estimated steady state percolation rate for each unlined pond;
 - f. Depth to shallow groundwater below the base of the pond;
 - g. Overfilling/overflow prevention features; and
 - h. Operation and maintenance procedures.
11. A complete description of the land discharge disposal system including:
- a. Plans and narrative description of the wastewater conveyance systems;
 - b. For surface application areas, provide the following:
 - Drawings Plans, typical sections, and key details
 - Land application operations (number and size of subareas, application method, application frequency (rotation cycle), application amounts);
 - Tailwater management methods; and
 - Storm water runoff management methods.
 - c. For subsurface disposal systems, provide the following:
 - 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. A description of emergency notification, backup power, emergency storage facilities or other means of preventing uncontrolled discharges during reasonably foreseeable emergency conditions (e.g., pump failure, pipeline break, power failure). Consider both potential problems at the plant and within the land discharge system.
13. If wastewater will be stored in ponds, projected monthly water balance 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. A minimum of two feet of freeboard in each pond at all times;
 - b. Historical local evaporation data (monthly average values);
 - c. Local precipitation data with the 100-year return period annual total distributed monthly in accordance with mean monthly precipitation patterns; and
 - d. Land application area loading rates distributed monthly in accordance with expected seasonal variations based on soil percolation capacity and evapotranspiration rates.
14. Proposed flow limits for the discharge to land 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; pumping station hydraulic capacity; and demonstrated waste disposal capacity).

15. A narrative description of plant operation and maintenance procedures to be employed, including those associated with waste storage and disposal.
16. Neighboring land uses.
17. Annual precipitation and pan evaporation rates in the vicinity of the facility.
18. A description of the types of soil underlying the wastewater disposal area (include a copy of the geotechnical report, if available).
19. A description of any policies or facility design features that reduce the potential for groundwater degradation (best practicable treatment and control or BPTC measures).
20. An assessment of the following based on site-specific information (if available) and reference materials as needed:
 - a. What is the groundwater elevation and gradient at the facility?
 - b. What is background shallow groundwater quality for typical water treatment waste constituents? ³
 - c. What are subsurface conditions at the wastewater disposal site?
 - d. What is the character of groundwater quality at the disposal site?
 - e. Based on site hydrogeology, the nature of the waste, and the disposal method, what level of degradation is expected to result from the discharge (if any)?
 - f. If the discharge will cause degradation, how will the degradation be controlled (i.e., what source control measures and/or additional treatment could be used to improve the character of the waste?).

³ Including the following: total dissolved solids, common anions/cations, and metals.