

# ORDER R5-\_\_\_\_ ATTACHMENT C

## TECHNICAL INFORMATION FOR A REPORT OF WASTE DISCHARGE

For

### Discharges to Land in the WDR (Non 15<sup>1</sup>) Program (Individual WDRs Only)

This document provides guidance for applying for individual waste discharge requirements only. If you believe that your discharge would be appropriately regulated under general waste discharge requirements or general waiver, please see the links below and contact Central Valley Water Board staff for guidance.

General WDRs: [http://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/#General](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/#General)  
Waivers: [http://www.waterboards.ca.gov/centralvalley/board\\_decisions/adopted\\_orders/#Waivers](http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/#Waivers)

#### What is a Report of Waste Discharge?

A Report of Waste Discharge (ROWD) is an application for waste discharge requirements. A ROWD consists of the following:

1. A completed and signed Form 200, which can be down loaded from the internet at [http://www.waterboards.ca.gov/publications\\_forms/forms/docs/form200.pdf](http://www.waterboards.ca.gov/publications_forms/forms/docs/form200.pdf).
2. A technical report prepared by a California registered Civil Engineer that presents the information listed in the table below.
3. For a new or previously unpermitted discharges, a check for the first annual fee made payable to the *State Water Resources Control Board*. Consult with staff to determine the required fee. There is no fee if you are applying for revised or updated WDRs because you are already subject to an annual permit fee. The current fee schedule can be viewed at the following link: <http://www.waterboards.ca.gov/resources/fees/index.shtml#wdr>

#### Compliance with the California Environmental Quality Act (CEQA)

Although not required as part of the ROWD, for new, previously unpermitted, or expanding/changing discharges, you must also submit a copy of any draft and final environmental review documents prepared to comply with the California Environmental Quality Act (CEQA).

If the local planning agency (city or county, as applicable) or another public agency has determined that the project (or expansion, changes, etc.) does not require any discretionary action by that agency, the Central Valley Water Board may be the lead agency for the purposes of CEQA, and you will be required to submit an Initial Study and pay all fees and other costs associated with the CEQA process unless the Board determines that the action falls within the scope of a categorical or statutory exemption. Fees associated with the filing of an Initial Study may include a California Department of

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<sup>1</sup> The Non 15 Program regulates discharges to land that are exempt from Title 27 of the California Code of Regulations. See the following link for a brief explanation of Title 27 and exemptions that may be used: [http://www.waterboards.ca.gov/water\\_issues/programs/land\\_disposal/waste\\_discharge\\_requirements.shtml](http://www.waterboards.ca.gov/water_issues/programs/land_disposal/waste_discharge_requirements.shtml)

Fish and Game fee, County Clerk recording fees, and costs for publishing the CEQA Notice of Intent in a local newspaper. Consult with your local planning agency and Central Valley Water Board staff if you have any questions about CEQA. Additional information about CEQA is also available at the following link: [http://opr.ca.gov/m\\_ceqa.php](http://opr.ca.gov/m_ceqa.php).

**What is Required for the ROWD Technical Report?**

Please note the following tips to expedite the ROWD review and waste discharge requirements development:

- Providing the information in the same order as the list below will help to expedite the ROWD review. Staff will use this as a checklist.
- If any of the information is missing or incomplete, the ROWD will be deemed incomplete and the process (and your project) will be delayed until all of the required information is submitted. You will be notified in writing of the ROWD status after it has been reviewed. If the ROWD is incomplete, we will specify the additional information that is required to complete the ROWD.
- All numerical data presented in tables and calculations performed using spreadsheets should be provided in digital form (MS Excel compatible spreadsheet) as well as hard copy.
- If some of the information listed below can be found in a previous technical report prepared by a registered professional, the ROWD can incorporate the report as an appendix, but the ROWD text must specify where in the report the required information can be found. However, if appended reports contain information that conflicts with the body of the ROWD, it may cause further delays.

<b>A. General Information</b>	
1.	Is this a new/proposed 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 a copy of any other permits that reference or relate to the wastewater disposal system. This includes Use Permits and Surface Mining and Reclamation Act (SMARA) reclamation plans, etc.
4.	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. The approximate latitude and longitude of the facility that generates the wastewater, wastewater treatment facilities, and wastewater land disposal areas.
	c. Township, Range, and Section.
	d. Assessor's parcel numbers.

<p><b>B. Wastewater Facility and Discharge</b></p> <p>Complete this section for both new/proposed facilities and existing facilities.</p>	
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. For new/proposed facilities, provide the methods used to estimate these design parameters and copies of all calculations.
3.	For existing facilities, 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 sewer inflow and infiltration (I/I) contributes significantly to influent flow, provide an I/I analysis to project I/I as a function of total annual precipitation and/or groundwater level as appropriate.
4.	A detailed description of the facilities that generate wastewater, and all wastewater conveyance, treatment, and disposal systems. Use site plans and conceptual drawings as appropriate to illustrate locations and typical construction. Include all treatment processes. The following maps, plans, and illustrations are needed:
a.	A facility location map showing local topography, the facility location and/or boundaries, streets, and surface waters (including storm water drainage ditches, irrigation canals, and irrigation/tailwater ditches).
b.	A process flow schematic for the entire treatment and disposal system. Include existing and proposed flow monitoring devices and sampling locations proposed to determine compliance with the WDRs.
c.	A scaled treatment plant site plan.
d.	A scaled map showing the limits of all proposed wastewater treatment, storage and disposal areas.
5.	Characterization of the source water (the community or process water supply), influent wastewater quality (prior to treatment or discharge), and treated effluent quality. See Table 1 for a minimum list of constituents to be analyzed.
6.	For POTWs and domestic wastewater facilities, a description of the sewer system, sewer materials and age, and lift station details (type, location, capacity, backup systems, and alarm features). Discuss potential inflow and infiltration (I/I) rates in light of local groundwater conditions and sewer system materials/design.  For industrial facilities, a description of the industrial wastewater collection and conveyance system.
7.	A description of proposed alarm systems, emergency wastewater storage facilities, and other means of preventing treatment system bypass or failure during reasonably foreseeable overload conditions (e.g., peak flows, power failure, sewer blockage). Consider both potential problems at the treatment system and within the conveyance system.

8. Preventive and contingency measures for controlling spills and accidental discharges.
9. Flood and frost protection measures (structural and operational) employed at the facility.
10. For debris, grit and screenings, sludge, and biosolids the following:
a. A description of solids generation rates, on-site treatment and handling systems, and short-term storage procedures.
b. A description of solids disposal practices.
c. For facilities that do not have continuous sludge wasting systems (i.e., where sludge accumulates in treatment and/or storage ponds), the frequency of assessing accumulated sludge volume, the date of the last sludge volume assessment, the date of the last sludge cleanout, and expected frequency of future sludge cleanout activities
11. 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. Include a copy of the Construction Quality Assurance (CQA) Report if one was prepared.
f. Estimated steady state percolation rate for each unlined pond.
g. Depth to shallow groundwater below the base and pond inverts.
h. Overfilling/overflow prevention features.
i. Operation and maintenance procedures.
12. For 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.
13. If treated domestic effluent will be recycled for beneficial reuse or if wastewater will be reused or land-applied <sup>2</sup> , provide a complete description of the following:
a. Ownership and contact information for each landowner <sup>3</sup> .
b. Effluent disinfection system.
c. Effluent conveyance systems.

<sup>2</sup> Uses of recycled water that are limited to landscape irrigation (including golf courses) can be regulated under General WDRs issued by the State Water Board. See this webpage for more information: [http://www.waterboards.ca.gov/water\\_issues/programs/water\\_recycling\\_policy/landscape\\_irrigation\\_general\\_permit.shtml](http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/landscape_irrigation_general_permit.shtml).

<sup>3</sup> Landowners are typically named in WDRs as co-dischargers, and the WDRs may include separate requirements with which co-dischargers must comply.

	d. Water recycling/Land application areas (LAA) areas.
	e. Cropping plans.
	f. Planned operations (planting and harvest, irrigation method, irrigation frequency, irrigation amounts).
	g. Expected nutrient loadings (pounds per acre per year total nitrogen).
	h. Expected salt loadings (pounds per acre per year total dissolved solids).
	i. Tailwater management methods.
	j. Storm water runoff management methods.
	k. Setback distances from the edge of each recycling/land application area from the property boundary, public streets, occupied structures owned by others, and surface waters/surface water conveyances.
	l. Plans that illustrate items c, d, i, j, and k above
	14. If wastewater effluent will be recycled pursuant to Title 22 of the California Code of Regulations (e.g., if domestic wastewater is recycled to grow crops, irrigate landscaping, provide pasture for livestock, or for landscape or recreational impoundments, including reclamation sites owned by a POTWs, unless water is recycled solely for irrigation of landscaping at the POTW site) a Title 22 Engineering Report must be submitted to both the Central Valley Water board and California Department of Public Health <sup>4</sup> .
	15. 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. For POTWs and private domestic wastewater facilities, 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 recycling area/land application area/disposal system hydraulic loading rates distributed monthly in accordance with expected seasonal variations based on crop evapotranspiration rates.
	f. Projected long-term percolation rates (including consideration of percolation from unlined ponds and the effects of solids plugging on all ponds).
	16. Proposed flow limits and basis for the limits. Consider dry weather flows vs. peak flows and seasonal variations. Include the technical basis for the proposed flow limit (e.g., design

<sup>4</sup> 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.

	treatment capacity; hydraulic capacity of a main lift station, headworks, or other system element; and demonstrated effluent storage/disposal capacity).
	17. A narrative description of treatment system operation and maintenance procedures to be employed, including those associated with effluent storage and disposal.
	18. For POTWs, the level of operator certification and staffing; the names and grade levels of all certified operators, and the hours that the facility is manned.
	19. For privately owned domestic wastewater treatment facilities, the names and grade levels of all certified operators, and the hours that the facility is manned. If the facility does not have a certified operator, provide justification for not retaining one.
	<b>C. Planned Changes in the Facility and Discharge (for existing facilities only)</b>
	1. Describe in detail any and all planned changes in the facility or discharge, addressing each of items listed in Section B above.
	<b>D. Local and Site-Specific Conditions (Illustrate with maps as appropriate)</b>
	1. Neighboring land uses.
	2. Typical crops grown (if agricultural area).
	3. Irrigation water source(s) and volume and quality data (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). Include at least the following:
	a. Depth of unsaturated soil when groundwater is closest to the surface.
	b. Soil types based on site-specific information, sampling locations (accurately measured and recorded), description and results of percolation tests or other tests used to estimate soil long-term infiltration rates. Include depth, thickness, and soil horizons. Soils must be described at a minimum of five feet below the bottom of any disposal unit.
	c. Bedrock type and condition encountered in disposal area, if any.
	d. A scaled map depicting soil/rock types and test locations.
	12. Provide the following information about hydrogeology and groundwater:
	a. Stratigraphy, groundwater elevation and gradient, transmissivity, and influence of all recharge and pumping sources (site conceptual model).
	b. Elevation and gradient of first groundwater at the facility
	c. Depth to highest anticipated groundwater based upon onsite measurements taken

	during wet season.
	d. Shallow groundwater quality for typical waste constituents, up/down gradient. (See Table 1)
	e. Information on monitoring well locations, construction details, and locations of any geological features (e.g. aquitards, subterranean channels, faults) and aquifer characteristics.
	f. Summary of historical groundwater monitoring results (last 5 years for existing facilities, 2 years for new/planned facilities).
	<b>E. Antidegradation Analysis</b>
	<p>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 will not cause an exceedance of one or more water quality objectives, the discharger must demonstrate that all practicable treatment or control measures have been implemented or will be implemented such that the Board can consider these measures to represent the “best practicable treatment or control” (BPTC) of the constituents of concern. Demonstrating that BPTC has been, or will be, implemented at the site can provide justification for the Board to allow the current level of degradation to continue or increase (as applicable), or for the Board to allow any degradation in the case of a new discharge. The Antidegradation Policy is incorporated into our Basin Plans, which also include implementation plans that we follow. See the following link for the Basin Plans and other important policy documents:</p> <p><a href="http://www.waterboards.ca.gov/centralvalley/plans_policies/">http://www.waterboards.ca.gov/centralvalley/plans_policies/</a></p>
	The Antidegradation Analysis must include the following:
	1. 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.
	2. 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 for each constituent listed in the effluent category on Table 1:
	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>5</sup> upgradient and downgradient of the site and

<sup>5</sup> Include analyses for the following: total coliform organisms, total dissolved solids, fixed dissolved solids, electrical conductivity, nitrate nitrogen, total nitrogen, and major anions and cations.

	comparison to established water quality objectives <sup>6</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 areal extent that the discharge has impacted or will impact the quality of the shallow groundwater, if any;
	f. The concentration found and/or expected increase in concentration in shallow groundwater for each constituent.
	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 (treatment or control). Such features might include salinity source control, other pollutant source control, advanced treatment, disinfection, concrete treatment structures, and pond lining systems, etc.
	ii. Additional treatment or control 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 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.
	<b>F. Industrial Storm Water Permit</b>
	The State Water Resources Control Board adopted Order 97-03-DWQ (NPDES General Permit 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. Many industrial facilities and some domestic 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.  See the following link for more information:  <a href="http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/">http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/</a>
	<b>G. General WDRs for Sanitary Sewer Systems.</b>

<sup>6</sup> Compare to Basin Plan water quality objectives, including drinking water standards, agricultural water quality goals, etc.

The State Water Resources Control Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Order 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.

See the following link for more information:

[http://www.waterboards.ca.gov/water\\_issues/programs/ssw/index.shtml](http://www.waterboards.ca.gov/water_issues/programs/ssw/index.shtml)

#### **H. Department of Water Resources Well Standards**

The 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 Water Code 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.

See the following link for more information:

[http://www.dpl.water.ca.gov/sd/groundwater/california\\_well\\_standards/well\\_standards\\_content.html](http://www.dpl.water.ca.gov/sd/groundwater/california_well_standards/well_standards_content.html)

**Table 1**

The Report of Waste Discharge must characterize the groundwater (G), source water (S), treatment system influent (I), and effluent discharge (E) for, at minimum, the constituents indicated in the list below. The characterization must be based on a statistically significant number of representative samples as determined by an appropriately registered and/or licensed professional. All media must also be characterized for all additional waste constituents that may be in the discharge based on the facility processes employed but not listed below.

Constituent <sup>1</sup>	Units	Minimum Recommended Characterization Data			
		POTW/ Domestic	Food Processor	Sand and Gravel	Other Industry
Biochemical Oxygen Demand	mg/L	I, E	I, E		E
Chemical Oxygen Demand	mg/L	G, E	I, E		E
Settleable Matter	ml/L	E	E		E
Total Suspended Solids	mg/L	I, E	I, E		E
Total Dissolved Solids	mg/L	G, S, I, E	G, S, E	G	G, S, E
Fixed Dissolved Solids	mg/L		E		G, S, E
Electrical Conductivity	umhos/cm	G, S, I, E	G, S, I, E	G, S, I, E	G, S, I, E
Total Kjeldahl Nitrogen as N	mg/L	G, S, E	G, S, E		G, S, E
Ammonia Nitrogen as N	mg/L	G, S, E	G, S, E		G, S, E
Nitrate Nitrogen as N	mg/L	G, S, E	G, S, E		G, S, E
pH	pH Units	G, S, I, E	G, S, E	G, S, I, E	G, S, I, E
General Minerals <sup>2</sup>					
Alkalinity	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Hardness	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Bicarbonate	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Carbonate	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Calcium	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Magnesium	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Chloride	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Potassium	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Sodium	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Sulfate	mg/L	G, S, E	G, S, E	G, S, E	G, S, E
Metals <sup>3</sup>					
Aluminum	ug/L	E			E
Antimony	ug/L			S, E	

Constituent <sup>1</sup>	Units	Minimum Recommended Characterization Data			
		POTW/ Domestic	Food Processor	Sand and Gravel	Other Industry
Arsenic	ug/L	G, S, E	G, S, E	G, S, E	G, S, E
Barium	ug/L			S, E	
Beryllium	ug/L			S, E	
Boron	ug/L	G	G	G, S, E	G
Cadmium	ug/L			S, E	
Chromium (IV)	ug/L			S, E	
Chromium (III)	ug/L			S, E	
Total Chromium	ug/L	G	G	G, S, E	G
Cobalt	ug/L			S, E	
Copper	ug/L	E	E	S, E	E
Fluoride	ug/L			S, E	
Iron	ug/L	G, S, E	G, S, E	G, S, E	G, S, E
Lead	ug/L	E		S, E	E
Mercury	ug/L	E		S, E	E
Manganese	ug/L	G, S, E	G, S, E	G, S, E	G, S, E
Molybdenum	ug/L			S, E	
Nickel	ug/L			S, E	
Selenium	ug/L			S, E	
Silver	ug/L			S, E	
Thallium	ug/L			S, E	
Vanadium	ug/L			S, E	
Zinc	ug/L	E		S, E	E
Disinfection By-Products <sup>4</sup>	ug/L	G, E	E		E
Formaldehyde <sup>5</sup>	ug/L	G, E	E		E
Phenols <sup>5</sup>	ug/L	G, E			E
Priority Pollutants <sup>6</sup>	Various	G, E			E

<sup>1</sup> With the exception of wastewater samples, samples for metals analysis must first be filtered using a 0.45-micron filter. If filtering in the field is not feasible, samples shall be collected in unpreserved containers and submitted to the laboratory within 24 hours with a request (on the chain of custody form) to immediately filter then preserve the sample.

<sup>2</sup> General minerals analyses shall be accompanied by a cation/anion balance demonstrating complete analyses.

- <sup>3</sup> Where constituents are analyzed as part of other suites of constituents, the results may be substituted to avoid redundant analyses (i.e., arsenic results collected to fulfill the metals suite requirements may also be used to fill the Priority Pollutant suite requirements provided appropriate detection limits are used.).
- <sup>4</sup> If wastewater is disinfected using chlorination or chlorination is used in internal disinfection processes.
- <sup>5</sup> If the facility accepts holding tank waste from RVs, boats, or portable toilets.
- <sup>6</sup> The Discharger must determine which priority pollutants, if any, are likely to be present in the discharge at concentrations that might degrade groundwater quality, and must provide characterization data for those constituents.