

Statewide General Waste Discharge Requirements (WDRs) for Wineries

Business Operations Seminar Presented to
Paso Robles Wine Country Alliance – November 5, 2024

Presented by

CONDOR EARTH

Sonora, Stockton, Rancho Cordova, Jamestown, Paso Robles



CONDOR



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Quick Overview

- ▶ **WHAT** is the Winery General Order?
- ▶ **WHY** was the Winery Order adopted?
- ▶ **HOW** will wineries comply?
 - Assemble Your Compliance Team
 - Determine Tier based on annual process water flow
 - Submit Application Packet (NOI, Technical Report, fee)
 - Receive Notice of Applicability from Water Board
 - Implement Best Practicable Treatment or Control (BPTC) and make improvements, if necessary
 - Implement Monitoring and Reporting Program

WHAT is the Winery Order?

- WQ-2021-0002-DWQ, General Waste Discharge Requirements (WDRs) for Winery Process Water (Winery Order) is a permit adopted by the State Water Resources Control Board (State Water Board) to regulate discharges of winery waste to land.
- Intended to regulate all wineries in the state that generate more than 10,000 gallons of process water per year that results in the discharge of process water or solids to land.
- Replaces Central Coast Regional Water Quality Control Board (Central Coast Water Board) Order No. R3-2017-0020, which has expired.*

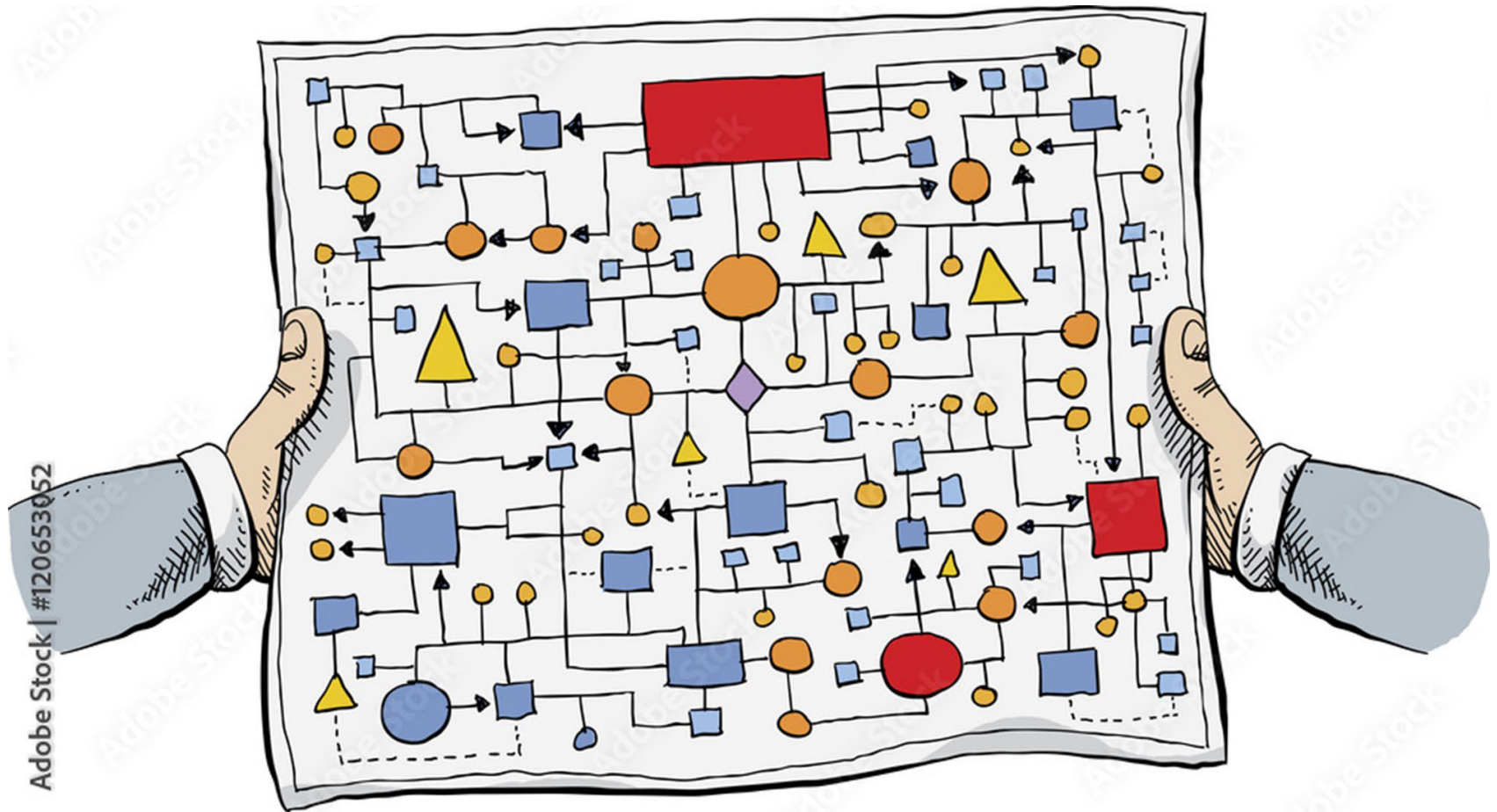
WHY was the Winery Order adopted?

- ▶ According to the Winery Order, California is home to about 4,580 wineries; 589 of which are currently permitted by the regional water boards through WDRs
- ▶ The discharge of winery waste (wine, grape juice, winery process water, winery process solids) could affect waters of the state (surface and ground water)
- ▶ The primary constituents of concern in process water are nitrogen, biochemical oxygen demand (BOD), and salinity (TDS, FDS)

Enrollment Deadline

- ▶ The Winery Order was adopted by the State Water Board on January 21, 2021.
- ▶ For unpermitted existing wineries, the application deadline to apply was January 20, 2024.
- ▶ The Central Coast Water Board has begun migrating wineries from their regional program to the statewide Winery Order. Letters were sent requesting selected wineries to submit an application by February 1, 2025 to enroll in the Winery Order general permit.

HOW will wineries comply?



Winery Order Eligibility

Eligibility for the Winery Order is determined by tiers. A winery's tier is determined by the annual winery process water flow.

Annual Flow in Gallons per Year (GPY)	Tier
< 10,000	Exempt
10,000 – 30,000	Tier 1
30,001 – 300,000	Tier 2
300,001 – 1,000,000	Tier 3
1,000,001 – 15,000,000	Tier 4

Exemption status must be verified by Central Coast Water Board staff.

Winery Order Application Process

Notice of
Intent
(NOI)

ATTACHMENT B NOTICE OF INTENT

Process

The State Water Board and regional water board may provide procedures for electronic submittal or modifications to the Notice of Intent (NOI) and its associated supporting information or documents.

Discharger Information

Facility owner name: _____
Street address: _____ State: _____ Zip: _____
City: _____
County: _____ Email: _____
Telephone: _____ Partnership _____ LLC
Owner type: (mark one)
 Individual Corporation
 Other (please specify): _____
Federal Tax Identification Number: _____
Secretary of State Business License Number: _____

Operator Information (if different from facility owner information)

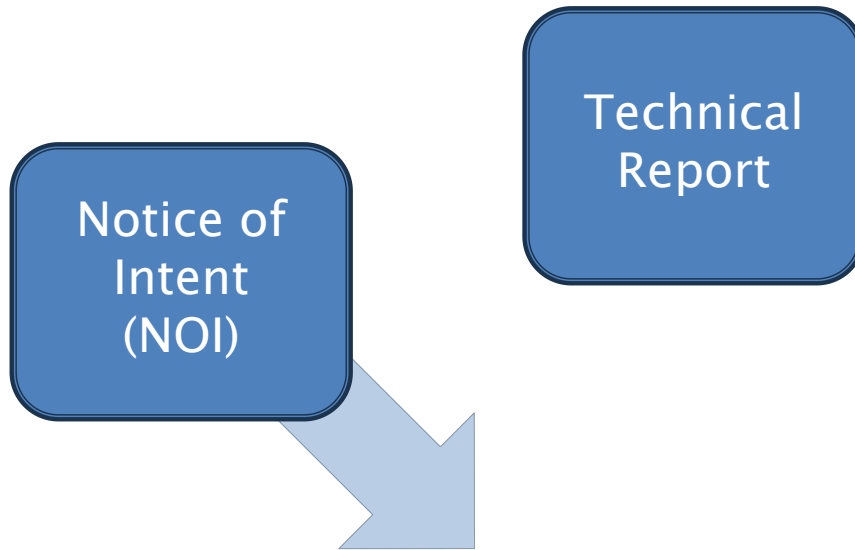
Operator name: _____
Street address: _____ State: _____ Zip: _____
City: _____
County: _____ Email: _____
Telephone: _____ Partnership _____ LLC
Operator type: (mark one)
 Individual Corporation
 Other (please specify): _____

Order WQ 2021-0002-DWQ

January 20, 2021

B-1

Winery Order Application Process



Winery Order Application Process

STATE WATER RESOURCES CONTROL BOARD
GENERAL WASTE DISCHARGE REQUIREMENTS FOR
WINERY PROCESSING WATER

ATTACHMENT C TECHNICAL REPORT FOR REPORT OF WASTE DISCHARGE

Pursuant to Water Code, section 13267, Dischargers may be required to furnish, under penalty of perjury, technical or monitoring program reports as a condition of the General Order. The information presented in the technical report is required by Water Code, section 13267 and is relied upon by the regional water board to prepare the Notice of Applicability (NOA) for coverage under the General Order. The Discharger shall ensure that the information presented in the technical report is accurate. Misstatements, errors, or omissions that exist in the technical report may be included in the NOA and become enforceable.

The technical report outline presented below is intended to provide general guidance for Dischargers and consultants and should be tailored to a facility's site-specific conditions as appropriate. Submitting a technical report consistent with this format will assist the Discharger in providing the necessary information to the regional water board, expedite review of the technical report, and streamline the permitting process. It is recommended that the Discharger contact their regional water board to discuss the project before preparing the technical report. The State Water Board and regional water board may provide procedures for electronic submittal or modifications to the technical report, its associated supporting information or documents, and the issuance of the NOA.

For Tier 1: Only complete technical report Sections 7, 8, and 9.

1. FACILITY BACKGROUND

- 1.1. Facility Description
 - 1.1.1. Describe what the facility does and any previous uses at the site. Describe major facility operations (e.g., operates vineyards, crushes grapes, receives grape juice, makes grape juice and/or wine) and whether the facility operates year-round or for specific months (e.g., crush only).
 - 1.1.2. Describe all the water supply sources (e.g., onsite groundwater well, municipal connection). Describe water sources used for supplemental irrigation (e.g., irrigation canal, agricultural well).
 - 1.1.3. Describe how domestic wastewater is managed (e.g., community sewer connection, portable toilets, septic system).
 - 1.1.4. For facilities with existing permit coverage (e.g., waste discharge requirements, county permit), provide the permit or order number and site Waste Discharger Identification (WDID) number.

Order WQ 2021-0002-DWQ

January 20, 2024

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Notice of
Intent
(NOI)

Technical Report Summary

The **Technical Report** is relied upon by the regional water board to prepare a **Notice of Applicability (NOA)** for coverage under the General Order. The following sections are generally required. Recommended to confer with the regional water board regarding site specifics. (*NOTE: Tier 1 facilities only complete Sections 7, 8, and 9.*)

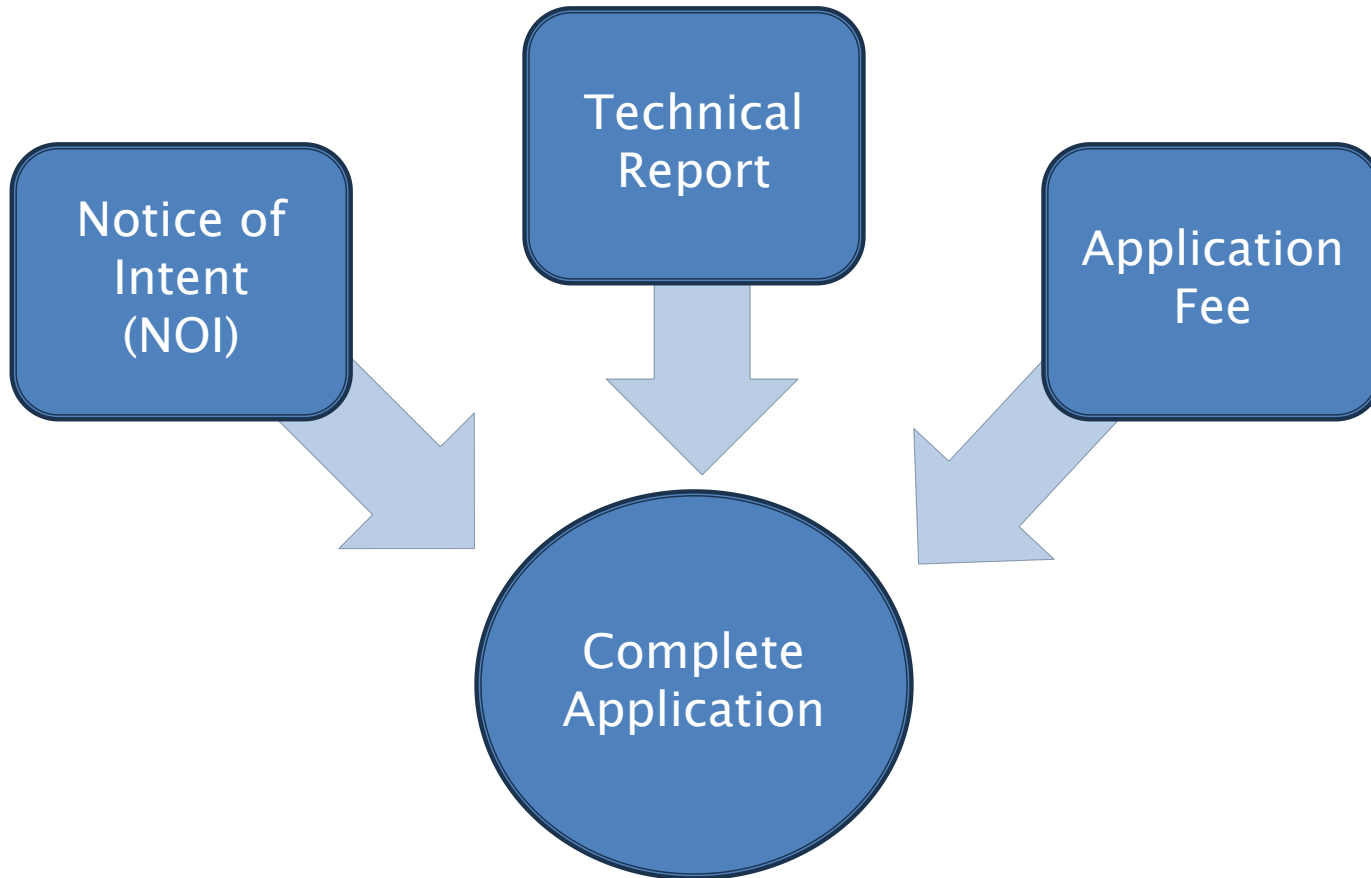
▶ Tiers 2 – 4:

- **Section 1** – Facility Background (description, processes, maps)
- **Section 2** – Facility Tier and Winery Effluent Flow (at least 5 years flow info. for existing)
- **Section 3** – Process Water Generation, Treatment, Reuse, and Disposal
- **Section 4** – Water Quality (Source Water, Process Water)
- **Section 5** – Solids Management (description of process solids and leachate handling)
- **Section 6** – Groundwater Characterization (from existing monitoring wells or available info)

▶ ALL Tiers (1 – 4):

- **Section 7** – Facility Improvements and Proposed Schedule
- **Section 8** – Summary Information
- **Section 9** – Certification

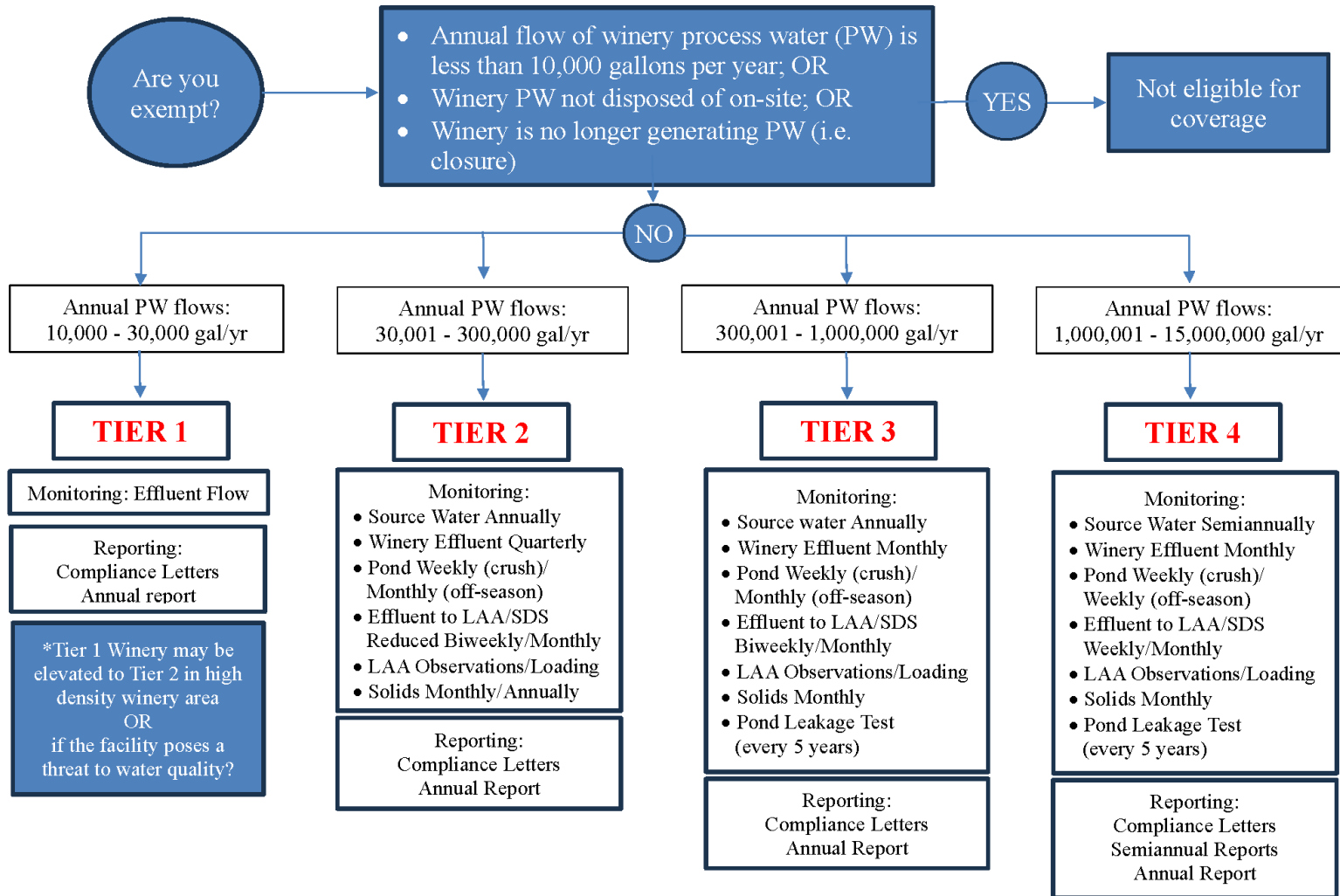
Winery Order Application Process



Enrollment

- ▶ Central Coast Water Board staff will review the application; it is an iterative process and they may ask for clarification or additional information.
- ▶ Once the application is approved, the Central Coast Water Board will issue a Notice of Applicability approving enrollment and conditionally authorizing discharge of winery waste to land and, if applicable, will include a timeline for compliance for any necessary facility improvements.
- ▶ Once enrolled, the discharger will submit monitoring reports as required via the Geotracker online database.

Winery Order Flowchart



Discharge Prohibitions

- ▶ Discharge prohibitions for all Tiers include, but are not limited to:
 - No discharge to surface water or surface drainage courses.
 - No discharge of toxic substances that disrupt biological treatment.
 - No discharge of stillage, distillery waste, or water softener brine.
 - No discharge or application of process solids to the subsurface disposal area.
 - No discharge of domestic wastewater (commingled wastes generally not allowed).
 - Complete list of discharge prohibitions outlined in the Winery Order.

Effluent Limitations

- ▶ Effluent limitations for Tiers 2, 3, and 4.
- ▶ Annual flow limitations as specified in NOA by Tier.
- ▶ Average BOD loading to the Land Application Area (LAA) shall not exceed 100 lb/acre/day over the course of any discharge (irrigation cycle), determined using a moving average of the three most recent process water results.
- ▶ Application of waste constituents to LAA shall be at agronomic rates as demonstrated with an annual nitrogen balance for the plants grown at the LAA.
- ▶ Daily discharge flow to Subsurface Disposal System (SDS) shall not exceed one gallon per square foot of discharge trench per day (1 gal/sqft/day), except as stipulated in the Technical Provisions for updating an existing SDS.
- ▶ The treated SDS effluent shall be measured prior to discharge to the subsurface disposal area and shall not exceed total nitrogen of 10 mg/L, BOD of 300 mg/L, and TSS of 330 mg/L as a rolling average of the three most recent samples.

Source Water Monitoring

The Discharger shall monitor each source of water supply used for winery processing activities (water supply well, surface water, municipal source, etc.) and for supplemental irrigation (e.g., agricultural well, irrigation canal, etc.).

Parameter	Sample Type	Tier 2 – Frequency	Tier 3 – Frequency	Tier 4 – Frequency
Flow	Metered or calculated	Continuous, daily, or average daily flow	Continuous or daily	Continuous or daily
TDS	Grab	Annually	Annually	Annually
FDS	Grab	Annually	Annually	Annually
Flow-weighted FDS	Computed average	Annually	Annually	Annually
Total Kjeldahl nitrogen (TKN)	Grab	Annually	Annually	Annually
Ammonia as nitrogen	Grab	Annually	Annually	Annually
Nitrate + nitrite as nitrogen	Grab	Annually	Annually	Annually
Total nitrogen	Calculated	Annually	Annually	Annually
General minerals	Grab	--	--	Annually

*Tier 1 only monitors wastewater effluent flow volume

Winery Effluent Monitoring

Winery effluent measurements and samples are required when process water is generated. The Discharger shall collect winery effluent flow measurements and samples after screening and at a point in the system where process water, including any process water generated from outdoor processing areas, discharges from the winery but before treatment in a pond, land application area, or subsurface disposal system.

Parameter	Sample Type	Tier 1 – Frequency	Tier 2 – Frequency	Tier 3 – Frequency	Tier 4 – Frequency
Flow	Metered or calculated	Continuous, daily, or average daily flow	Continuous, daily, or average daily flow	Continuous or daily	Continuous or daily
Days of operation (generating process water)	Observation	Daily	Daily	Daily	Daily
TDS	Grab		Quarterly	Monthly	Monthly
FDS	Grab		Quarterly	Monthly	Monthly
Flow-weighted FDS	Computed average		Quarterly	Monthly	Monthly

Pond Monitoring

In addition to pond samples, the Discharger shall inspect the pond and note the pond berm and liner conditions in field logs, a summary of which shall be included in the monitoring reports. Process water ponds shall be monitored until dry as follows:

Parameter	Sample Type	Tier 2 – Frequency	Tier 3 – Frequency	Tier 4 – Frequency
Freeboard (0.1 foot)	Observation	Weekly	Weekly	Weekly
Berm conditions	Observation	Weekly	Weekly	Weekly
Liner condition	Observation	When visible	When visible	When visible
DO	Field	Crush: weekly Off-season: monthly	Crush: weekly Off-season: monthly	Weekly
pH	Field	Crush: weekly Off-season: monthly	Crush: weekly Off-season: monthly	Weekly
EC	Field	Crush: weekly Off-season: monthly	Crush: weekly Off-season: monthly	Weekly

Effluent to LAA Monitoring

Effluent to land application area monitoring shall be conducted when there is discharge to land.

Parameter	Sample Type	Tier 2 – Frequency	Tier 3 – Frequency	Tier 4 – Frequency
Flow	Metered or calculated	Continuous, daily, or average daily flow	Continuous or daily	Continuous or daily
pH	Field	Bi-weekly	Bi-weekly	Weekly
EC	Field	Bi-weekly	Bi-weekly	Weekly
BOD	Grab or 24-hr composite	Crush: bi-weekly Off-season: one-time	Crush: bi-weekly Off-season: monthly	Crush: bi-weekly Off-season: bi-weekly or monthly
FDS	Grab or 24-hr composite	Crush: bi-weekly Off-season: one-time	Monthly	Monthly
TDS	Grab or 24-hr composite	Crush: bi-weekly Off-season: one-time	Monthly	Monthly
Total Kjeldahl nitrogen (TKN)	Grab or 24-hr composite	Monthly	Monthly	Monthly
Ammonia as nitrogen	Grab or 24-hr composite	Monthly	Monthly	Monthly
Nitrate + nitrite as nitrogen	Grab or 24-hr composite	Monthly	Monthly	Monthly
Total nitrogen	Calculated	Monthly	Monthly	Monthly
General minerals	Grab or 24-hr composite	--	--	Annually

LAA Monitoring

Land application area monitoring shall be conducted when there is discharge to land. inspect the land application area and note the field conditions in field logs, a summary of which shall be included in the monitoring reports.

Parameter	Sample Type	Tier 2 – Frequency	Tier 3– Frequency	Tier 4– Frequency
Field conditions	Observation	Weekly	Weekly	Weekly
Cropping activities	Observation	When it occurs	When it occurs	When it occurs
Application field number	Observation	Daily	Daily	Daily
Application Area	Measurement	Daily	Daily	Daily
Days in irrigation cycle	Observation	Daily	Daily	Daily
Process water flow	Metered or calculated	Continuous, daily, or average daily flow	Continuous or daily	Continuous or daily
Process water loading	Calculated	--	Daily	Daily
Supplemental water flow	Metered or estimated	Daily or average daily flow	Daily	Daily
Supplemental water loading	Calculated	--	Daily	Daily
Precipitation	Rain gauge	Daily	Daily	Daily
Total hydraulic loading	Calculated	--	Daily	Daily

LAA Monitoring (cont.)

Land application area monitoring shall be conducted when there is discharge to land. inspect the land application area and note the field conditions in field logs, a summary of which shall be included in the monitoring reports.

Parameter	Sample Type	Tier 2 - Frequency	Tier 3- Frequency	Tier 4- Frequency
BOD loading				
Day of application	Calculated or estimated	Daily	Daily	Daily
Cycle average	Calculated	Daily	Daily	Daily
Nitrogen loading				
Nitrogen loading by source	Calculated	Monthly	Monthly	Monthly
Cumulative nitrogen loading	Calculated	Annually	Annually	Annually
Salt loading				
From process water	Calculated	--	Monthly	Monthly
Cumulative salt loading	Calculated	--	Annually	Annually

Subsurface Disposal System Monitoring

The Discharger shall conduct settling tank monitoring for the following:

Parameter	Sample Type	Tier 2 – Frequency	Tier 3– Frequency	Tier 4– Frequency
Thickness of accumulated sludge and floating scum layer in each tank compartment	Staff gauge	Annually	Annually	Annually
Vertical distance between bottom of floating scum layer in each tank compartment	Staff gauge	Annually	Annually	Annually
Vertical distance between top of accumulated sludge layer and bottom of tank outlet	Staff gauge	Annually	Annually	Annually

Effluent to Subsurface Disposal Area Monitoring

Effluent to subsurface disposal area monitoring shall be conducted when there is discharge to land.

Parameter	Sample Type	Tier 2 – Frequency	Tier 3 – Frequency	Tier 4 – Frequency
Flow	Metered or calculated	Continuous, daily, or average daily flow	Continuous or daily	Continuous or daily
pH	Field	Bi-weekly	Bi-weekly	Weekly
EC	Field	Bi-weekly	Bi-weekly	Weekly
BOD	Grab or 24-hr composite	Crush: bi-weekly Off-season: one-time	Crush: bi-weekly Off-season: monthly	Crush: bi-weekly Off-season: bi-weekly or monthly
TSS	Grab or 24-hr composite	Crush: bi-weekly Off-season: one-time	Crush: bi-weekly Off-season: monthly	Crush: bi-weekly Off-season: bi-weekly or monthly
FDS	Grab or 24-hr composite	Crush: monthly Off-season: one-time	Crush: bi-weekly Off-season: monthly	Crush: bi-weekly Off-season: bi-weekly or monthly
TDS	Grab or 24-hr composite	Crush: monthly Off-season: one-time	Crush: bi-weekly Off-season: monthly	Crush: bi-weekly Off-season: bi-weekly or monthly
Total Kjeldahl nitrogen (TKN)	Grab or 24-hr composite	Crush: bi-weekly Off-season: one-time	Crush: bi-weekly Off-season: monthly	Crush: bi-weekly Off-season: bi-weekly or monthly
Ammonia as nitrogen	Grab or 24-hr composite	Crush: bi-weekly Off-season: one-time	Crush: bi-weekly Off-season: monthly	Crush: bi-weekly Off-season: bi-weekly or monthly

Effluent to Subsurface Disposal Area Monitoring (cont.)

Effluent to subsurface disposal area monitoring shall be conducted when there is discharge to land.

Parameter	Sample Type	Tier 2 – Frequency	Tier 3 – Frequency	Tier 4 – Frequency
Nitrate + nitrite as nitrogen	Grab or 24-hr composite	Crush: bi-weekly Off-season: one-time	Crush: bi-weekly Off-season: monthly	Crush: bi-weekly Off-season: bi-weekly or monthly
Total nitrogen	Calculated	Crush: bi-weekly Off-season: one-time	Crush: bi-weekly Off-season: monthly	Crush: bi-weekly Off-season: bi-weekly or monthly
General minerals	Grab or 24-hr composite	--	--	Annually

Subsurface Disposal Area Monitoring

Subsurface disposal area monitoring shall be conducted when there is discharge to land.

Parameter	Sample Type	Tier 2 – Frequency	Tier 3– Frequency	Tier 4– Frequency
Disposal area conditions	Observation	Weekly	Weekly	Weekly
Cropping activities	Observation	When it occurs	When it occurs	When it occurs
Disposal area field number	Observation	Daily	Daily	Daily
Disposal area field number	Measurement	Daily	Daily	Daily
Days in discharge cycle	Observation	Daily	Daily	Daily
Process water flow	Metered or calculated	Continuous, daily, or average daily flow	Continuous or daily	Continuous of daily
Hydraulic loading	Calculated	Daily	Daily	Daily
Hydraulic loading	Calculated	Monthly	Monthly	Monthly
Precipitation	Rain Gauge	Daily	Daily	Daily

Solids Monitoring

Process solids monitoring shall be conducted when process solids are generated. Monitoring shall also include solids characterization and field monitoring when process solids are land applied.

Parameter	Sample Type	Tier 2 – Frequency	Tier 3– Frequency	Tier 4– Frequency
Solids source	Observation	Monthly	Monthly	Monthly
Solids generated	Estimated or measured	Monthly	Monthly	Monthly
Disposal method	Observation	Monthly	Monthly	Monthly
Land applied solids				
Amount applied by source	Estimated or measured	Annually	Monthly	Monthly
Application field number	Observation	Annually	Monthly	Monthly
Application area	Observation	Annually	Monthly	Monthly
Total Kjeldahl nitrogen (TKN)	Grab	Crush: one-time Solids cleanout: each time	Crush: one-time Solids cleanout: each time	Crush: one-time Solids cleanout: each time
Ammonia as nitrogen	Grab	Crush: one-time Solids cleanout: each time	Crush: one-time Solids cleanout: each time	Crush: one-time Solids cleanout: each time
Nitrate + nitrite as nitrogen	Grab	Crush: one-time Solids cleanout: each time	Crush: one-time Solids cleanout: each time	Crush: one-time Solids cleanout: each time
Total nitrogen	Calculated	Crush: one-time Solids cleanout: each time	Crush: one-time Solids cleanout: each time	Crush: one-time Solids cleanout: each time

Groundwater Monitoring

Tier 4 Only

Parameter	Sample Type	Frequency (Tier 4 Only)
Depth to groundwater	Measured	Quarterly
Groundwater elevation	Calculated	Quarterly
Groundwater gradient	Calculated	Quarterly
Groundwater flow direction	Calculated	Quarterly
pH	Field	Quarterly
EC	Field	Quarterly
FDS	Grab	Quarterly
TDS	Grab	Quarterly
Total Kjeldahl nitrogen (TKN)	Grab	Quarterly
Ammonia as nitrogen	Grab	Quarterly
Nitrate + nitrite as nitrogen	Grab	Quarterly
Total nitrogen	Calculated	Quarterly
Iron, dissolved	Grab	Annually
Manganese, dissolved	Grab	Annually
General minerals	Grab	Annually

Reporting

Dischargers in all tiers shall submit Compliance Letters and Annual Reports. Tier 4 Dischargers shall also submit Semi-annual Reports twice a year.

Report	Reporting Period	Due Date	Tier 1	Tier 2	Tier 3	Tier 4
Compliance Letter	Jan - Dec	First day of second month after reporting period	X	X	X	X
<u>Semi-annual Report</u>						X
First semi-annual	Jan - Jun	Aug 1				
Second semi-annual	Jul - Dec	Mar 1				
Annual Report	Jan - Dec	Mar 1	X	X	X	X

Potential Additional Reporting Requirements

- ▶ Stormwater Pollution Prevention Plan (SWPPP)
- ▶ Spill Prevention and Emergency Response Plan (Tiers 3 and 4)
- ▶ Nitrate Control Plan (if necessary)
- ▶ Salt Control Plan (if necessary)
- ▶ Pond Performance Test Report (Tiers 3 and 4 if pond is older than 10 years)

Building Your Compliance Team

- In-house Expertise
- Trusted Technical Advisor
- Analytical Laboratory
- Regulatory Agency

Pro Tip:

Everyone loves a Condor on their team!



Compliance To-do List

- ▶ Assemble your compliance team
- ▶ Gather Information on your facility
- ▶ Compile NOI and Technical Report
- ▶ Submit application packet electronically with fee
- ▶ Pending NOA from Water Board, implement BPTC and coordinate facility improvements, if necessary
- ▶ Implement monitoring and reporting program pursuant to Winery Order requirements

Additional Resources

- ▶ State Water Board Winery Order website:
https://www.waterboards.ca.gov/water_issues/programs/waste_discharge_requirements/winery_order.html
- ▶ Central Coast Water Board staff:

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- ▶ Condor Earth



Any Questions?