

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2015-\_\_

FOR

SUTTER HOME WINERY, INC.  
SUTTER HOME WINERY WESTSIDE FACILITY  
SAN JOAQUIN COUNTY

This Monitoring and Reporting Program (MRP) incorporates requirements for monitoring of wastewater, wastewater treatment ponds, storm water ponds, land application areas, solids, and groundwater. This MRP is issued pursuant to Water Code section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Flow monitoring shall be conducted continuously using flow meters. Field test instruments (such as those used to measure pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated prior to each monitoring event;
3. The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of the MRP.

Analytical procedures shall comply with the methods and holding times specified in the following: *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA); *Test Methods for Evaluating Solid Waste* (EPA); *Methods for Chemical Analysis of Water and Wastes* (EPA); *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA); *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125). Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the California Department of Public Health's Environmental Laboratory Accreditation Program. The Discharger may propose alternative methods for approval by the Executive Officer. Where technically feasible, laboratory reporting limits shall be lower than the applicable water quality objectives for the constituents to be analyzed.

### INFLUENT FLOW MONITORING

Influent wastewater flows to wastewater treatment ponds shall be performed at flow monitoring stations 1, 2, 3 and 4 as shown on Attachment C and shall include the following:

<u>Monitoring Location</u> <sup>1</sup>	<u>Units</u>	<u>Type of Sample</u>	<u>Monitoring Frequency</u>	<u>Reporting Frequency</u>
Winery Sumps (Station 1)	Gallons	Calculated	Daily	Monthly
Bottling Line Sumps (Station 2)	Gallons	Meter Reading	Daily	Monthly
Fermentation and Screening Sumps (Station 3)	Gallons	Meter Reading	Daily	Monthly
Total Influent Flow to Ponds 1 and 2 (Station 4)	Gallons	Calculated <sup>2</sup>	Daily	Monthly

<sup>1</sup> Monitoring requires daily meter reading or automated data collection using a meter equipped with a totalizer.

<sup>2</sup> Total influent flows shall be calculated as the daily sum of measured flows at Stations 1, 2, and 3.

### INFLUENT WASTEWATER MONITORING

Influent wastewater samples shall be collected at established sampling stations located immediately upstream of Ponds 1 and 2, as shown on Attachment C. Influent monitoring shall include the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Biochemical Oxygen Demand <sup>1</sup>	mg/L	Grab	Monthly	Monthly
Fixed Dissolved Solids	mg/L	Grab	Monthly	Monthly

<sup>1</sup> Five-day, 20° Celsius Biochemical Oxygen Demand.

### EFFLUENT WASTEWATER MONITORING

Treated wastewater samples shall be collected from an established sampling station located immediately downstream of Pond No. 3 that will provide representative samples of the treated wastewater that will be applied to the LAAs. Effluent wastewater monitoring shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Biochemical Oxygen Demand	mg/L	Grab	Monthly	Monthly
Total Nitrogen	mg/L	Grab	Monthly	Monthly
Fixed Dissolved Solids	mg/L	Grab	Monthly	Monthly
Selected Standard Minerals <sup>1</sup>	mg/L	Grab	Quarterly	Quarterly <sup>2</sup>

- <sup>1</sup> Selected standard minerals shall include the following: potassium, sulfate, and total alkalinity (including alkalinity series).  
<sup>2</sup> Quarterly results shall be reported in the monthly report for the month in which samples were analyzed.

**WASTEWATER POND MONITORING**

Each wastewater treatment pond shall be monitored as follows. Freeboard shall be measured vertically from the surface of the pond water to the lowest elevation of the surrounding berm and shall be measured to the nearest 0.1 feet. Wastewater pond monitoring shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Dissolved Oxygen <sup>1</sup>	mg/L	Grab	Weekly	Monthly
Freeboard	feet (±0.1)	Measurement	Weekly	Monthly
pH	pH Units	Grab	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly

<sup>1</sup> Samples shall be collected at a depth of one foot in each pond opposite the inlet.

**STORM WATER POND MONITORING**

Each storm water basin shall be monitored whenever it contains more than 6 inches of water in the lowest portion of the pond. Samples shall be collected from an established sampling station located in each basin that will provide representative samples of the water in the pond. Freeboard shall be measured vertically from the surface of the pond water to the lowest elevation of the surrounding berm and shall be measured to the nearest 0.1 feet. Monitoring of the ponds shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Presence/Absence of Water	--	Observation	Weekly	Monthly
Freeboard	feet (±0.1)	Measurement	Weekly	Monthly
pH	pH Units	Grab	Weekly	Monthly
Total Nitrogen	mg/L	Grab	Monthly	Monthly
Fixed Dissolved Solids	mg/L	Grab	Monthly	Monthly

**SUPPLEMENTAL IRRIGATION WATER MONITORING**

Supplemental irrigation water quality shall be monitored as described below during periods when supplemental irrigation water is used to irrigate the LAAs. Monitoring of supplemental irrigation water from each on-site irrigation well that is used, Sycamore Slough, and the

Woodbridge Irrigation District Canal shall be performed during each quarter when water from that source is used, and each sample shall be analyzed for the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u> <sup>1</sup>
Total Nitrogen	mg/L	Grab	Quarterly	Monthly
Total Dissolved Solids	mg/L	Grab	Quarterly	Monthly
Fixed Dissolved Solids	mg/L	Grab	Quarterly	Monthly

<sup>1</sup> Quarterly monitoring results shall be reported in the monthly report for the month in which samples are analyzed.

### LAND APPLICATION AREA MONITORING

The Discharger shall inspect and monitor the land application areas and the results shall be included in the monthly monitoring reports. Evidence of erosion, field saturation, runoff, or the presence of nuisance conditions shall be noted in the report. Loading rates for each land application area shall be calculated. Monitoring of the land application areas shall include the following, and flows shall be measured at flow monitoring stations 5 and 6 as shown on Attachment C:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Monitoring Frequency</u>	<u>Reporting Frequency</u>
Local Rainfall	inches	Measurement	Daily	Monthly
Effluent Wastewater Application <sup>1</sup> (Station 5)	gpd and inches	Meter Reading <sup>1</sup>	Daily	Monthly
Supplemental Irrigation Water Application (Station 6):	gpd and inches	Meter Reading <sup>1,2</sup>	Daily	Monthly
Acreage Applied <sup>3</sup>	Acres	Observation	Daily	Monthly
Total Water Application	gpd and inches	Calculated	Daily	Monthly
BOD Loading Rates: Irrigation Cycle Average	lb/acre/day	Calculated	--	Monthly
Total Nitrogen Loading Rate				
Wastewater	lb/acre	Calculated	--	Monthly
Fertilizer/Other	lb/acre	Calculated	--	Monthly
Total (all sources)	lb/acre	Calculated	--	Monthly

<sup>1</sup> Measure and report the volume of wastewater discharged to each land application area from Pond 3.

<sup>2</sup> Measure and report the volume of supplemental irrigation water discharged to each land application

- area.
- <sup>3</sup> Land Application Areas shall be identified by name or number and the acreage provided. If a portion of an area is used, then the acreage shall be estimated.

At least **once per week** when wastewater is being applied to a particular land application area, the entire application area shall be inspected to identify any equipment malfunction or other circumstance that might allow irrigation runoff to leave the area and/or create ponding conditions that violate the Waste Discharge Requirements. A log of these inspections shall be kept at the facility and be submitted with the monthly monitoring reports. If wastewater was not applied to the land application area, then the monthly monitoring report shall so state.

### SOLIDS MONITORING

The Discharger shall monitor the solids generated and disposed of on a monthly basis. The following shall be monitored and reported:

1. Amount of solids generated, including pomace, seeds, stems, lees, diatomaceous earth, wastewater screenings, sump solids, and sludge removed from treatment ponds.
2. Volume disposed of off-site. For each solids type, describe the disposal method (e.g. animal feed, land application, off-site composting, landfill, etc.), the amount disposed (tons), the name of the hauling company, and the location where the material was transported.

### GROUNDWATER MONITORING

Prior to construction and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Board for approval. Once installed, all new wells shall be added to the monitoring network and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved EPA methods. The following table lists all existing monitoring wells and designates the purpose of each well:

GW-1 <sup>1</sup>	GW-2 <sup>2</sup>	GW-3 <sup>2</sup>	GW-4 <sup>2</sup>	GW-5 <sup>1,3</sup>	GW-6 <sup>1,3</sup>	GW-7 <sup>1</sup>	GW-8 <sup>1</sup>
GW-9 <sup>1</sup>	GW-10 <sup>1</sup>	GW-11 <sup>1</sup>	GW-12 <sup>1</sup>	GW-13 <sup>2</sup>	GW-14 <sup>1</sup>	GW-15 <sup>1</sup>	GW-16 <sup>4</sup>
GW-17 <sup>4</sup>	GW-18 <sup>1</sup>	GW-19 <sup>1</sup>	GW-20 <sup>1</sup>	GW-21 <sup>1</sup>	GW-22 <sup>1</sup>		

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<sup>1</sup> Compliance well.  
<sup>2</sup> Well not suitable as a compliance well or background well; monitored for water table elevation only.  
<sup>3</sup> Well to be abandoned and replaced.  
<sup>4</sup> Background well.

Prior to sampling, depth to groundwater measurements shall be measured in each monitoring well to the nearest 0.01 feet. Groundwater elevations shall then be calculated to determine groundwater gradient and flow direction, based on surveyed well casing elevations. Low or no-purge sampling methods are acceptable, if described in an approved Sampling and Analysis Plan. Groundwater monitoring for all monitoring wells shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u> <sup>2</sup>	<u>Reporting Frequency</u> <sup>2</sup>
Depth to Groundwater	±0.01 feet	Measurement	Quarterly	Quarterly
Groundwater Elevation <sup>1</sup>	±0.01 feet	Calculated	Quarterly	Quarterly
Gradient	feet/feet	Calculated	Quarterly	Quarterly
Gradient Direction	Degrees	Calculated	Quarterly	Quarterly
pH	pH units	Grab	Quarterly	Quarterly
Total Nitrogen	mg/L	Grab	Quarterly	Quarterly
Nitrate Nitrogen	mg/L	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Dissolved Metals <sup>3</sup>	mg/L	Grab	Annually	Annually

<sup>1</sup> Groundwater elevation shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well.

<sup>2</sup> Background wells may be sampled annually and the results reported in the Quarterly Monitoring Report for the quarter during which sampling was performed.

<sup>3</sup> Metals shall include dissolved iron and dissolved manganese; samples shall be filtered using a 0.45 µ filter prior to sample preservation.

### GROUNDWATER TRIGGER CONCENTRATIONS

The following groundwater trigger concentrations are intended only to serve as a means of assessing whether wastewater discharge to the LAAs might potentially cause a violation of one or more of the Groundwater Limitations of the WDRs at some later date. These trigger concentrations only apply to compliance monitoring wells.

<u>Constituent</u>	<u>Trigger Concentration (mg/L)</u>	<u>Water Quality Objective</u>
TDS	800	1,000 <sup>1</sup>
Nitrate Nitrogen	8	10 <sup>2</sup>

<sup>1</sup> Upper Secondary Maximum Contaminant Level

<sup>2</sup> Primary Maximum Contaminant Level

If the annual evaluation of groundwater quality performed pursuant to this MRP shows that the annual average of one or more of the trigger concentrations has been exceeded in any compliance monitoring well during the calendar year, the Discharger shall submit one or both of the following technical reports (as applicable) by **1 May of the following calendar year** (e.g., if one or more trigger concentrations are exceeded for calendar year 2020, the appropriate report is due by 1 May 2021):

- a. A technical evaluation of the reason(s) for the concentration increase for each constituent and a technical demonstration that, although the concentration has

increased more than expected in one or more compliance wells, continuing the discharge without additional treatment or control will not result in exceedance of the applicable groundwater limitation.

- b. An Action Plan that presents a systematic technical evaluation of each component of the facility's waste treatment and disposal system to determine what additional treatment or control is necessary and feasible for each waste constituent that exceeds a trigger concentration. The plan shall evaluate each component of the wastewater treatment, storage, and disposal system (as applicable); describe the applicability and feasibility of available treatment and/or control technologies; provide preliminary capital and operation/maintenance cost estimates for each; designate the preferred option[s] for implementation; and specify a proposed implementation schedule. The schedule for full implementation shall not exceed one year, and the Discharger shall immediately implement the proposed improvements.

### EFFLUENT AND MASS LOADING CALCULATIONS

- a. The mass of BOD applied to each LAA as an irrigation cycle average shall be calculated using the following formula:

$$M = \frac{8.345(CV)}{A(CT)}$$

- Where:
- $M$  = mass of BOD applied to the irrigation block in lb/ac/day as an irrigation cycle average
  - $C$  = concentration of BOD in mg/L based on the most recent wastewater monitoring results
  - $V$  = volume of wastewater applied to the irrigation block in millions of gallons per day during the irrigation cycle
  - $A$  = area of the irrigation block in acres
  - $CT$  = cycle time (i.e., irrigation cycle length from start of irrigation to start of next irrigation event, in days)

- b. The mass of total nitrogen applied to each LAA on an annual basis shall be calculated using the following formula and compared to published crop demand for the crops actually grown:

$$M = \sum_{i=1}^{12} \frac{(8.345(C_i V_i) + M_x)}{A}$$

Where:

- $M$  = mass of nitrogen applied to LAA in lb/ac/yr
- $C_i$  = Monthly average concentration of total nitrogen for month  $i$  in mg/L
- $V_i$  = volume of wastewater applied to the LAA during calendar month  $i$  in million gallons
- $A$  = area of the LAA irrigated in acres
- $i$  = the number of the month (e.g., January = 1, February = 2, etc.)
- $M_x$  = nitrogen mass from other sources (e.g., fertilizer and compost) in pounds
- 8.345 = unit conversion factor

- c. The mass of wastewater fixed dissolved solids applied to each LAA on an annual basis shall be calculated using the following formula and compared to the FDS loading rate limit:

$$M = \sum_{i=1}^{12} \frac{8.345(C_i V_i)}{A}$$

Where:

- $M$  = mass of wastewater FDS applied to LAA in lb/ac/yr
- $C_i$  = Monthly average concentration of effluent FDS for month  $i$  in mg/L
- $V_i$  = volume of wastewater applied to the LAA during calendar month  $i$  in million gallons
- $A$  = area of the LAA irrigated in acres
- $i$  = the number of the month (e.g., January = 1, February = 2, etc.)
- 8.345 = unit conversion factor

## REPORTING

All monitoring reports should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50 MB should be emailed to:

[centralvalleysacramento@waterboards.ca.gov](mailto:centralvalleysacramento@waterboards.ca.gov)

Documents that are 50 MB or larger should be transferred to a CD, DVD, or flash drive and mailed to the following address:

Central Valley Regional Water Quality Control Board  
ECM Mailroom  
11020 Sun Center Drive, Suite 200  
Rancho Cordova, California 95670

To ensure that your submittals are routed to the appropriate staff, the following information block should be included in any correspondence used to transmit documents to this office:

Facility Name: Sutter Home Winery – Westside Facility		
Program: Non-15	Order: R5-2015-XXXX	CIWQS Place ID: 237277

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent wastewater, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the monitoring report.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all groundwater monitoring reports shall be prepared under the direct supervision of a registered professional engineer or geologist and signed by the registered professional.

**A. Monthly Monitoring Reports**

Monthly reports shall be submitted to the Regional Board by the **1<sup>st</sup> day of the second month** following the end of the reporting period (i.e. the January monthly report is due by 1 March). Monthly reports for the months of March, June, September, and December may be submitted as part of the Quarterly Monitoring Report, if desired. The monthly reports shall include the following:

1. Daily and total monthly flow volumes for influent and effluent wastewater.
2. Calculation of the cumulative influent wastewater flow volume for the calendar year to date.
3. Results of influent and effluent wastewater monitoring, including quarterly monitoring results if quarterly monitoring was performed during the month.
4. Results of wastewater and storm water pond monitoring.
5. Results of supplemental irrigation water monitoring if quarterly monitoring was performed during the month.
6. For each LAA, land application area monitoring data, including calculations of daily maximum and cycle average BOD loading rates and total nitrogen loading rate for

each LAA for the calendar year to date.

7. A comparison of monitoring data to the discharge specifications and effluent limitations, disclosure of any violations of the WDRs, an explanation of the reason for each violation, and a description of any corrective action taken. If requested by staff, copies of laboratory analytical report(s).
8. A calibration log verifying calibration of all hand held monitoring instruments and devices used to comply with the prescribed monitoring program;

### B. Quarterly Monitoring Reports

The Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Regional Board by the **1<sup>st</sup> day of the second month after the quarter** (e.g. the January-March quarter is due by May 1<sup>st</sup>) each year. The Quarterly Monitoring Report submittal schedule is shown in the table below.

Quarter	Month	Quarterly Report Due Date
First	January – March	1 May
Second	April – June	1 August
Third	July – September	1 November
Fourth	October - December	1 February

The Quarterly Monitoring Report shall include the following:

1. Results of groundwater monitoring;
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; method of purging and parameters measured before, during, and after purging. Low or no-purge sampling methods are acceptable if described in an approved Sampling and Analysis Plan;
3. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement;
4. Summary data tables of historical and current water table elevations and analytical results;
5. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and

6. If requested by staff, copies of laboratory analytical report(s) for groundwater monitoring.

### **C. Annual Monitoring Report**

An Annual Monitoring Report shall be submitted to the Central Valley Water Board by **1 February** each year. The Annual Monitoring Report shall include the following:

1. The contents of a regular Monthly Monitoring Report for the month of December.
2. The contents of the regular Quarterly Monitoring Report for the fourth quarter of the year.
3. Tabular and graphical summaries of monthly total loading rates for wastewater and supplemental irrigation water for each irrigation block within each LAA (hydraulic loading in gallons/acre and inches), a comparison to limits for BOD, total nitrogen, total dissolved solids, and fixed dissolved solids.
4. A tabular summary of monthly influent flow volumes for the calendar year and calculation of the maximum monthly and total annual influent wastewater flow volume and comparison to the flow limits of the WDRs.
5. A narrative discussion of groundwater flows and analytical results, including spatial and temporal trends, with reference to summary data tables, time v. concentration graphs, and water table elevation contour maps for each monitoring event.
6. Determination of whether any trigger concentrations were exceeded in any compliance well. If any groundwater trigger concentrations were exceeded, include acknowledgment that the appropriate technical report described in the Groundwater Trigger Concentrations section of this MRP will be submitted in accordance with the specified schedule.
7. A statistical determination of compliance with the groundwater limitations of the WDRs in accordance with the approved *Groundwater Limitations Compliance Assessment Plan*.
8. A comprehensive evaluation of the effectiveness of the past year's wastewater application operation in terms of odor control, even application of wastewater between the LAAs and within each irrigation block of each LAA, and groundwater protection, including consideration of application management practices (e.g.: waste constituent and hydraulic loadings, application cycles, drying times, and cropping practices), and groundwater monitoring data.
9. A summary of crops grown and removed from the LAAs. The summary shall include planting and harvest dates for each LAA, crop type and published nitrogen demand.
10. A summary of the quantity of each type of solids generated and disposed of off-site.

11. A summary of storm water pond monitoring data and an evaluation of the effectiveness of operations practices in preventing waste constituents from being discharged to the storm water ponds.
12. A description of any new salinity reduction or control methods that have been implemented in the calendar year and a quantification of the reductions achieved compared to previous years.
13. Estimated total wastewater flows for the next calendar year.
14. **Every five years beginning in 2018**, the results of pond liner and leak detection system integrity tests as required pursuant to Discharge Specification D.13. If significant liner leaks were detected, include a plan and schedule for leak repair or liner replacement.
15. **Every five years beginning in 2018**, the results of pond sludge monitoring and details of sludge removal and disposal as required pursuant to Discharge Specification D.14.
16. A discussion of compliance and corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.
17. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.

A letter transmitting the self-monitoring reports shall accompany each report. The letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain a statement by the Discharger, or the Discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate and complete.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: \_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer

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(Date)