

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2013-\_\_\_\_

FOR

DELICATO VINEYARDS, INC.  
DELICATO FAMILY VINEYARDS  
SAN JOAQUIN COUNTY

This Monitoring and Reporting Program (MRP) incorporates requirements for monitoring of winery wastewater, wastewater 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 wastewater samples shall be representative of the volume and nature of the discharge. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Winery wastewater flow monitoring shall be conducted continuously using a flow meter and shall be reported in cumulative gallons per day.

Field test instruments (such as pH and dissolved oxygen) may be used provided that:

1. The operator is trained in the proper use of the instrument;
2. The instruments are field calibrated prior to each use;
3. 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 this MRP.

**FLOW MONITORING**

**Effective immediately**, winery wastewater/storm water and supplemental irrigation water flow rates to the existing land application areas shall be monitored as follows:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow from Solids Separation System to each LAA	Gallons	Meter Reading	Daily	Monthly
Flow from Irrigation Supply Well to each LAA	Gallons	Meter Reading	Daily	Monthly
Flow from SSJID to each LAA	Gallons	Meter Reading	Daily	Monthly

**Effective 1 September 2013**, and upon completion of the aeration ponds, winery wastewater/ storm water and supplemental irrigation water flow rates to all land application areas shall be monitored as follows:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow from Wastewater Sumps #1 and #4 to Solids Separation	Gallons	Meter Reading	Daily	Monthly
Flow from Aeration Pond System to each LAA <sup>1</sup>	Gallons	Meter Reading	Daily	Monthly
Flow from Irrigation Supply Well to each LAA	Gallons	Meter Reading	Daily	Monthly
Flow from SSJID to each LAA	Gallons	Meter Reading	Daily	Monthly

<sup>1</sup> If wastewater flow is diverted around the aeration ponds to the LAAs, the monthly monitoring report shall so state.

### WASTEWATER (AERATION) POND MONITORING

**Effective 1 September 2013**, the aeration ponds shall be monitored as described below. 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, at a minimum, 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
pH	Std.	Measurement	Weekly	Monthly
Freeboard	feet (±0.1)	Measurement	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly

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

### WASTEWATER MONITORING

**Effectively immediately**, wastewater shall be monitored as described below. Wastewater samples shall be collected from established sampling stations immediately downstream of the solids separation system that will be representative of wastewater applied to land from Winery Sumps No. 1, 2, and 4. Wastewater monitoring shall include, at a minimum, 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

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Metals/Inorganics <sup>1</sup>	mg/L	Grab	Quarterly	Monthly <sup>2</sup>

<sup>1</sup> Metals/Inorganics include the following: boron, sodium, potassium, chloride, and sulfate.

<sup>2</sup> Quarterly sampling results shall be reported in the monthly report for the month in which samples are analyzed.

**Effective 1 September 2013**, wastewater shall be monitored as described below. Wastewater samples shall be collected from established sampling stations immediately downstream of the aeration ponds at the sampling locations shown on Attachment C. Wastewater monitoring shall include, at a minimum, 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
Metals/Inorganics <sup>1</sup>	mg/L	Grab	Quarterly	Monthly <sup>2</sup>

<sup>1</sup> Metals/Inorganics include the following: boron, sodium, potassium, chloride, and sulfate.

<sup>2</sup> Quarterly sampling results shall be reported in the monthly report for the month in which samples are analyzed.

### SUPPLEMENTAL IRRIGATION MONITORING

**Effective immediately**, supplemental irrigation water quality shall be monitored as described below during periods when supplemental irrigation water is used. Grab samples of supplemental irrigation water from both the onsite irrigation well and SSJID shall be analyzed for, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Total Nitrogen	mg/L	Grab	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Metals/Inorganics <sup>1</sup>	mg/L	Grab	Quarterly	Monthly <sup>2</sup>

<sup>1</sup> Metals/Inorganics include the following: boron, sodium, potassium, chloride, and sulfate.

<sup>2</sup> Quarterly sampling results shall be reported in the monthly report for the month in which samples are analyzed.

### LAND APPLICATION AREA MONITORING

The Discharger shall monitor the land application areas **daily during operation**, and shall submit the results in the corresponding 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 each land application area shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Local Rainfall <sup>1</sup>	Inches	Measurement	Daily	Monthly
Wastewater Applied	Gallons per day	Measurement	Continuous	Monthly
Supplemental Irrigation Water <sup>2</sup>				
Irrigation Well	Gallons per day	Measurement	Continuous	Monthly
SSJID	Gallons per day	Measurement	Continuous	Monthly
Total Water Application Rate <sup>3</sup>	gal/ac/day	Calculated	Daily	Monthly
Total Acreage Applied <sup>4</sup>	Acres	Calculated	Daily	Monthly
BOD Loading Rate <sup>5</sup>	lb/ac/day	Calculated	Daily	Monthly
Nitrogen Loading Rate <sup>6</sup>	lb/ac/mo. <sup>7</sup>	Calculated	Monthly	Monthly
LAA Soil Condition <sup>8</sup>	NA	Inspection	Monthly	Monthly

<sup>1</sup> Rainfall may be monitored on-site or reported from a nearby rain gauge station.

<sup>2</sup> When applied.

<sup>3</sup> Application rate monitored from all sources.

<sup>4</sup> Land Application Area(s) in use shall be identified by name or number and the acreage provided. If only a portion of an area is used, then the application acreage shall be estimated.

<sup>5</sup> Calculate the daily application rates, based on the most recent BOD effluent results.

<sup>6</sup> Total nitrogen applied from all sources, including fertilizers, compost, and supplemental irrigation water if used.

<sup>7</sup> Report monthly total and cumulative annual to date.

<sup>8</sup> LAA soil saturation condition (saturated or not saturated) shall be determined prior to wastewater application.

At least **once per week** when wastewater is being applied to the land application areas, 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 reports 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. Solids may include pomace, seeds, stems, diatomaceous earth, screenings, and sump/clarifier solids, or other material.
2. Storage for all solids waste streams. Describe the location of storage and measures implemented to prevent leachate generation or control and disposal of any leachate that is generated.
3. Volume and thickness of all solids applied to each land application area.
4. Volume disposed of off-site. Describe the disposal method (e.g. animal feed, land application, off-site composting, landfill, etc.), the amount disposed (tons), and the name of the hauling company.

### GROUNDWATER MONITORING

Prior to construction and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications for approval. Once installed, all new wells shall be added to the compliance monitoring network. The following table lists all existing monitoring wells and designates the purpose of each well:

MW-1<sup>1</sup>      MW-2r<sup>3</sup>      MW-3<sup>3</sup>      MW-4<sup>1</sup>      MW-5<sup>2</sup>      MW-6<sup>4</sup>

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- <sup>1</sup> Background well not used for compliance monitoring.
  - <sup>2</sup> Current background well that will be converted to use for compliance monitoring once land application areas are expanded to 130 acres
  - <sup>3</sup> Current and future compliance well.
  - <sup>4</sup> Current background well not suitable for use as a future compliance well because of influence from SSJID irrigation canal.

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.

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>	<u>Reporting Frequency</u>
Depth to Groundwater <sup>1</sup>	±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
Chloride	mg/L	Grab	Quarterly	Quarterly
Sodium <sup>2</sup>	mg/L	Grab	Quarterly	Quarterly
Sulfate	mg/L	Grab	Quarterly	Quarterly
Nitrate as Nitrogen	mg/L	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Metals/Inorganics <sup>2, 3</sup>	mg/L	Grab	Annually	Annually

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<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> Samples shall be field filtered with a 0.45-micron filter prior to preservation or digestion, as appropriate.  
<sup>3</sup> Metals/Inorganics include the following: arsenic, boron, calcium, iron, magnesium, manganese, potassium, total alkalinity (including alkalinity series), and hardness.

## REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., wastewater pond monitoring, groundwater monitoring, 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 next scheduled 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 Central Valley Water Board by the 1st day of the second month following the end of the reporting period (e.g. the January monthly report is due by 1 March). The monthly reports shall include the following:

1. Results of flow for all wastewater, supplemental irrigation water, land application area, and solids monitoring. Information reported shall include calculations of total monthly flows to each land application area from all water sources (i.e. wastewater, irrigation water, etc.), and the monthly average flow.
2. A comparison of monitoring data to the discharge specifications and effluent limitations (including calculations) of wastewater constituent concentrations and loading rates as required), disclosure of any violations of the WDRs, and an explanation of any violation of those requirements. Data shall be presented in tabular format.
3. If requested by staff, copies of laboratory analytical report(s).

### 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 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 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 WDRs, 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, comparison with previous flow direction and gradient data, and discussion of seasonal trends if any;
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. Copies of laboratory analytical report(s) for groundwater monitoring.

### **C. Annual Report**

In addition to the monthly and quarterly reports, a stand-alone annual report shall be prepared. The Annual Report shall be submitted to the Central Valley Water Board by **1 February** each year. The Annual Report shall include the following:

1. Tabular and graphical summaries of all data collected during the year.
2. Tabular and graphical summaries of total loading rates for water (hydraulic loading in gallons and inches), BOD, and total nitrogen.
3. Comparison of total nitrogen loading to each LAA with published crop demand values for the crops that were grown.
4. The maximum monthly and total annual wastewater flow (million gallons) and comparison to the flow limits of the WDRs.
5. Flow-weighted annual average FDS concentrations.
6. A comprehensive evaluation of the effectiveness of the past year's wastewater application operation in terms of odor control 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.
7. **Effective beginning with the 2013 Annual Monitoring Report**, an evaluation of the groundwater quality beneath the site and determination of compliance with the groundwater limitations of the WDRs based on intrawell statistical analysis for each constituent monitored for each compliance well in accordance with the approved

*Groundwater Limitations Compliance Assessment Plan.*

8. A description of salinity control methods that have been implemented in the calendar year and a quantification of the reductions achieved compared to previous years.
9. Estimated wastewater flows for the next calendar year.
10. **Every five years beginning in 2017**, the results of pond liner and leak detection system integrity tests, and if appropriate, a plan and schedule for leak repair shall be submitted in the Annual Monitoring Report for the following year.
11. 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.
12. 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. Such a 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)