CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2013-0028-01

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:

| Constituents | Units | Type of Sample | Sampling Frequency | Reporting Frequency |
|---|---|---|---|---|
| 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:

| Constituents | Units | Type of Sample | Measurement Frequency [2] | Reporting Frequency |
|---|---|---|---|---|
| Flow from Wastewater Sumps #1 and #4 to Solids Separation | Gallons | Meter Reading | Daily | Quarterly |
| Flow from Aeration Pond System to each LAA[1] | Gallons | Meter Reading | Daily | Quarterly |
| Flow from Irrigation Supply Wells to each LAA [2] | Gallons | Meter Reading | Daily | Quarterly |
| Flow from SSJID to each LAA | Gallons | Meter Reading | Daily | Quarterly |

[1] If wastewater flow is diverted around the aeration ponds to the LAAs, the monthly monitoring report shall so state.
[2] Flow monitoring is only required when wastewater is discharged to the LAAs.

## 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:

| Constituent | Units | Type of Sample | Sampling Frequency [2] | Reporting Frequency |
|---|---|---|---|---|
| Dissolved Oxygen [1] | mg/L | Grab | Weekly/Monthly | Quarterly |
| pH | Std. | Measurement | Weekly/Monthly | Quarterly |
| Freeboard | feet (±0.1) | Measurement | Weekly/Monthly | Quarterly |
| Odors | -- | Observation | Weekly/Monthly | Quarterly |

[1] Samples shall be collected at a depth of one foot, opposite the inlet.
[2] Sample frequency is weekly during the processing season or when wastewater is discharged to the pond, and monthly during the off-season.

## 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:

| Constituent | Units | Type of Sample | Sampling Frequency | Reporting Frequency |
|---|---|---|---|---|
| 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 [1] | mg/L | Grab | Quarterly | Monthly [2] |

[1] Metals/Inorganics include the following: boron, sodium, potassium, chloride, and sulfate.
[2] 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:

| Constituent | Units | Type of Sample | Sampling Frequency [2] | Reporting Frequency |
|---|---|---|---|---|
| Biochemical Oxygen Demand | mg/L | Grab | Monthly | Quarterly |
| Electrical Conductivity | µmhos/cm | Grab | Monthly | Quarterly |
| Total Nitrogen | mg/L | Grab | Monthly | Quarterly |
| Fixed Dissolved Solids | mg/L | Grab | Monthly | Quarterly |
| Metals/Inorganics [1] | mg/L | Grab | Annually | Annually |

[1] Metals/Inorganics include the following: boron, sodium, potassium, chloride, and sulfate.
[2] Sampling is only required when wastewater is discharged to the LAAs.

## 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 shall be collected from each onsite irrigation well and the SSJID water and shall be analyzed for, at a minimum, the following:

| Constituent | Units | Type of Sample | Sampling and Reporting Frequency |
|---|---|---|---|
| Total Nitrogen | mg/L | Grab | Every 5 years |
| Total Dissolved Solids | mg/L | Grab | Every 5 years |
| Metals/Inorganics [1] | mg/L | Grab | Every 5 years |

[1] Metals/Inorganics include the following: boron, sodium, potassium, chloride, and sulfate.

## LAND APPLICATION AREA MONITORING

The Discharger shall monitor the land application areas **daily during operation** and shall submit the results in the corresponding quarterly monitoring reports. LAA monitoring is only required when wastewater or solids are discharged to the LAAs. 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:

| Constituent | Units | Type of Sample | Sampling Frequency | Reporting Frequency |
|---|---|---|---|---|
| Local Rainfall [1] | Inches | Measurement | Daily | Quarterly |
| Wastewater Applied | Gallons per day | Measurement | Continuous | Quarterly |

| Constituent | Units | Type of Sample | Sampling Frequency | Reporting Frequency |
|---|---|---|---|---|
| Supplemental Irrigation Water [2] | | | | Quarterly |
| Irrigation Wells | Gallons per day | Measurement | Continuous | |
| SSJID | Gallons per day | Measurement | Continuous | |
| Total Water Application Rate [3] | gal/ac/day | Calculated | Daily | Quarterly |
| Total Acreage Applied [4] | Acres | Calculated | Daily | Quarterly |
| BOD Loading Rate [5] | lb/ac/day | Calculated | Daily | Quarterly |
| Nitrogen Loading Rate [6] | lb/ac/mo. [7] | Calculated | Monthly | Quarterly |
| LAA Soil Condition [8] | NA | Inspection | Monthly | Quarterly |

[1] Rainfall may be monitored on-site or reported from a nearby rain gauge station.
[2] When applied.
[3] Application rate monitored from all sources.
[4] 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.
[5] Calculate the daily application rates, based on the most recent BOD effluent results.
[6] Total nitrogen applied from all sources, including fertilizers, compost, and supplemental irrigation water if used.
[7] Report monthly total and cumulative annual to date.
[8] 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 quarterly monitoring reports. If wastewater was not applied to the land application area, then the quarterly monitoring reports shall so state.

## SOLIDS MONITORING

The Discharger shall monitor the solids generated and disposed of on a monthly basis and report the information in quarterly monitoring reports. 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[1] | MW-2r [3] | MW-3 [3] | MW-4 [1] | MW-5 [2] | MW-6 [4] |

[1] Background well not used for compliance monitoring.
[2] Current background well that will be converted to use for compliance monitoring once land application areas are expanded to 130 acres
[3] Current and future compliance well.
[4] 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:

| Constituent | Units | Type of Sample | Sampling Frequency | Reporting Frequency |
|---|---|---|---|---|
| Depth to Groundwater [1] | ±0.01 feet | Measurement | Semi-Annually | Annually |
| Groundwater Elevation [1] | ±0.01 feet | Calculated | Semi-Annually | Annually |
| Gradient | feet/feet | Calculated | Semi-Annually | Annually |
| Gradient Direction | Degrees | Calculated | Semi-Annually | Annually |
| pH | pH units | Grab | Semi-Annually | Annually |
| Chloride | mg/L | Grab | Semi-Annually | Annually |
| Sodium [2] | mg/L | Grab | Semi-Annually | Annually |
| Sulfate | mg/L | Grab | Semi-Annually | Annually |
| Nitrate as Nitrogen | mg/L | Grab | Semi-Annually | Annually |
| Total Dissolved Solids | mg/L | Grab | Semi-Annually | Annually |
| Metals/Inorganics [2, 3] | mg/L | Grab | Annually | Annually |

[1] Groundwater elevation shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well.
[2] Samples shall be field filtered with a 0.45-micron filter prior to preservation or digestion, as appropriate.
[3] Metals/Inorganics include the following: arsenic, boron, calcium, iron, magnesium, manganese, potassium, total alkalinity (including alkalinity series), and hardness.

## REPORTING

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

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:

| Delicato Vineyards, Inc., Delicato Family Vineyards – San Joaquin County | | |
|---|---|---|
| Program: Non-15 Compliance | Order: R5-2013-0028-01 | CIWQS Place ID: 220771 |

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.

When monitoring reports have the same deadline, the reports can be combined and are not required to be stand-alone reports (e.g., the Fourth Quarter Monitoring Report can be included in the Annual 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. Quarterly Monitoring Reports

Daily, weekly, and monthly monitoring data shall be reported in the quarterly monitoring reports, which shall be submitted to the Regional Board by the **1st day of the second month after the quarter** (e.g. the January-March quarter is due by May 1st) 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 Flow Monitoring in tabular format for each day during the reported quarter, including calculated values for the total flow and average daily flow for each month and total annual flow to date;
2. Results of Pond Monitoring in tabular format for each week/month during the reported quarter;
3. Results of Wastewater Monitoring in tabular format for each month during the reported quarter;
4. Results of Land Application Area Monitoring;
5. Results of Solids Monitoring;
6. 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.

## B. Annual Report

The Annual Report is due **1 February** and shall contain the following:

1. Results of groundwater monitoring for the calendar year, which includes data collected during the two sampling periods (January-June and July-December sampling events).
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring conducted for the year. 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.
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: *--original signed by--*
PATRICK PULUPA, Executive Officer

19 October 2018
(Date)