

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2020-0021

WASTE DISCHARGE REQUIREMENTS

FOR
JAHANT WOOD CELLARS, L.P.
LANGE TWINS FAMILY WINERY AND VINEYARDS
SAN JOAQUIN COUNTY

Findings

The California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) finds that:

1. On 9 October 2019, Jahant Wood Cellars, L.P. (Discharger) submitted a Report of Waste Discharge (RWD) describing an existing winery that generates process wastewater and residual solids that are discharged to land in Acampo, California.
2. The Discharger owns and operates the facility that generates the waste and the land application areas (LAAs) and is responsible for compliance with these Waste Discharge Requirements (WDRs).
3. The facility, which includes the winery, wastewater treatment system, and LAAs, is located at 1525 East Jahant Road in San Joaquin County (Section T4N, R6E, Section 11, MDB&M). The winery and wastewater treatment system occupy Assessor's Parcel Numbers (APNs) 003-140-120, 003-150-220, and 003-150-200 and the LAAs occupy 003-150-200 and 003-150-220. The facility location is shown on Attachment A and the LAAs are shown on Attachment B; both figures are incorporated herein.
4. WDRs Order R5-2006-0088, adopted by the Central Valley Water Board on 4 August 2006, prescribes the requirements for the discharge. Order R5-2006-0088 allows a monthly average wastewater flow of up to 60,000 gallons per day (gpd). The Discharger is changing their LAAs and potentially adding additional wastewater ponds. Therefore, Order R5-2006-0088 will be rescinded and replaced with this Order.

Existing Facility and Discharge

5. The facility processed between 20,000 and 30,000 tons of grapes annually between 2015 and 2019. Activities at the winery include receiving, crushing, and pressing of grapes, fermentation, processing into finished wines, bottling, and distribution. The grape harvest and crush season typically occur over a 120-day period, between August and November. Bottling may occur at any time throughout the year.
6. Process wastewater is generated from wine processing activities, which include process equipment cleaning, wash down operations, and bottling. To reduce water use, the

facility utilizes electromagnetic radiation (UV light) to sanitize tanks. Chemicals used at the facility that may impact wastewater quality are shown below.

Table 1. Chemical Usage

Chemical	Estimated Annual Quantities
Winery Cleaner (caustic) (sodium hydroxide, potassium hydroxide, sodium gluconate)	3,000 gallons
Blend Acid (nitric acid and phosphoric acid)	220 gallons
Acid Membrane Cleaner (phosphoric acid and nitric acid)	55 gallons
Hydrogen Peroxide	165 gallons
231 Extra Caustic	200 pounds
Citric Acid	4,000 pounds
Sodium Carbonate	275 pounds
CL Trisodium Phosphate	250 pounds
HD Spec Cleaner 550 KOH	600 gallons
Citric Acid	70 gallons
Peracetic Acid	10 gallons
Third-Power Degreaser	10 gallons

7. The wastewater treatment system consists of a lift station, screens, pH adjustments, Advanced Integrated Pond System (AIPS) (Ponds C and D), an effluent pond, and LAAs. Process wastewater from within winery and the external 2-acre, concrete crush pad is collected in drains with grate covers to facilitate separation of solids from the wastewater. Wastewater then flows via gravity to a lift station in the southeast corner of the winery, as shown on Attachment C, incorporated herein.
8. Wastewater is pumped out of the lift station which is automatically activated according to the water level. Wastewater is then directed to the first part of the headworks area through a screen that removes solids. The second part of the headworks is the pH adjustment area. Potassium hydroxide is used to maintain the pH of the wastewater and is fed into the waste stream using an automatic sensor, which maintains the pH between 6 and 7. The last part of the headworks is the flow meter, which measures the flow entering the beginning of the AIPS (Pond C).
9. Flow rate volumes into Pond C are summarized below.

Table 2. Flow Rates (gallons)

Month	2017 Max Daily Flow	2017 Avg Daily Flow	2018 Max Daily Flow	2018 Avg Daily Flow	2019 Max Daily Flow	2019 Avg Daily Flow
Jan	59,596	24,541	76,778	34,793	104,900	33,164

Month	2017 Max Daily Flow	2017 Avg Daily Flow	2018 Max Daily Flow	2018 Avg Daily Flow	2019 Max Daily Flow	2019 Avg Daily Flow
Feb	55,381	26,142	58,600	27,885	92,400	34,185
Mar	70,246	29,177	79,200	31,654	72,900	37,877
Apr	78,714	27,743	52,200	24,140	81,300	37,213
May	64,583	28,713	78,700	35,587	73,500	28,232
Jun	57,535	28,599	49,200	28,966	77,300	25,946
Jul	59,253	28,129	69,800	30,709	59,800	27,352
Aug	73,373	50,354	92,200	49,083	88,600	48,823
Sep	93,570	63,602	76,500	52,900	Not available	Not available
Oct	90,804	54,679	89,800	64,519	Not available	Not available
Nov	60,834	30,862	166,700	48,500	Not available	Not available
Dec	69,569	27,697	143,800	39,722	Not available	Not available

10. Wastewater from the headworks flows to Pond C, as shown on Attachments C and D. The pond is double lined with a geomembrane synthetic liner, aerated, and equipped with a leak detection system. The aerators are remotely controlled based on continuous dissolved oxygen (DO) measurements. Pond C is approximately 57 feet wide on the northern side, 66 feet wide on the southern end, and approximately 287 feet long with a capacity of approximately 700,000 gallons, not including two feet of freeboard.
11. Biochemical oxygen demand (BOD) concentrations in influent samples collected from Pond C are summarized below.

**Table 3. BOD Results
 (milligrams per liter [mg/L])**

Month	2018	2017	2016
Jan	550	200	340
Feb	670	470	120
Mar	430	250	150
Apr	280	170	71
May	160	140	43
Jun	380	370	23
Jul	410	130	150
Aug	410	130	150
Sep	3300	260	39
Oct	1,200	1,200	380
Nov	380	740	330
Dec	Not available	480	240

12. Wastewater from Pond C is directed to Pond D, which is a double lined pond (geomembrane synthetic liner) equipped with a leak detection system. The pond is

aerated for odor control and is approximately 95 feet wide and 192 feet long with a capacity of approximately 700,000 gallons, not including two feet of freeboard.

13. Effluent from Pond D is directed to the Effluent Pond. The pond is 74 feet wide and 202 feet long with an approximate capacity of 1,000,000 gallons, not including two feet of freeboard. The Effluent Pond is double lined and equipped with a leak detection system.
14. Wastewater quality for samples collected from the Effluent Pond are summarized below. These results represent the quality of wastewater discharged to the LAAs. Maximum concentrations for each year are shown.

Table 4. Effluent Quality (mg/L)

Year	BOD	Nitrate	Fixed Dissolved Solids (FDS)	Total Dissolved Solids (TDS)
2016	120	Not sampled	Not sampled	Not sampled
2017	140	9.8	750	1,200
2018	170	15	1,170	1,600
2019	Not available	19.2	830	1,220

15. Previously, wastewater from the Effluent Pond was used to irrigate approximately 132 acres of LAAs covered under Order R5-2006-0088. The Discharger is removing these LAAs and will no longer discharge wastewater or solids to these areas. The Discharger has added two new parcels to the facility, consisting of approximately 65.1 acres, of which 55.5 acres will be cropped and irrigated with process wastewater. Once discharges of wastewater and solids to this area occur, wastewater will no longer be discharged to the former LAAs. The former LAAs and new LAAs are shown on Attachment B. The new LAAs may be sprinkler, flood, or drip irrigated and cropped with rye for cattle feed, sorghum, Sudan grass, barley, or other similar crop types. The new LAAs slope toward Jahant Slough. The southern boundary of the LAAs is bermed to prevent wastewater from migrating off the LAAs.

16. The yearly monthly loading rate averages to the former LAAs from 2016 to 2018 are summarized below.

Table 5. Loading Rates (lbs/acre/year)

Location	Year	Total Volume of Wastewater Discharged (million gallons)	BOD	FDS	Nitrogen
132 acres	2016	11.9	20.5	379.4	11.5
	2017	9.0	47.0	345.7	1.8
	2018	14.3	84.8	747.9	3.5

17. Solids, including pomace (skins, seeds, pulp, stems, etc.) and filter cake media (bentonite and diatomaceous earth) are separated from the process wastewater, loaded onto a truck, and transported to the new LAAs. The solids will be spread onto the new LAAs via spreaders for use as fertilizers and soil amendments. Volumes of solids generated and discharged to the former LAAs are summarized below. The volume shown for 2019 includes data from January to August 2019.

Table 6. Volume of Solids

Year	Volume (tons)
2016	4,250
2017	3,945
2018	5,200
2019	2,120

18. The ponds are assessed for the amount of material, such as solids and sludge, at the base of the ponds once year and removed as needed. The removed solids are used as a soil amendment at the LAAs.

19. A water balance included in the 2019 RWD for a 100-year rainfall event evaluated the assimilative capacity of the land application area, using the 55.5 acres. Based on the evaluation, the new LAA has sufficient assimilative capacity to absorb the applied wastewater and storm water year-round. The water balance also showed that the volume of wastewater to be discharged is insufficient to meet crop demand. Supplemental irrigation water will be needed and supplied by an on-site agricultural well. Supplemental irrigation water will be applied directly to the fields and not commingled with wastewater prior to irrigation.

20. Storm water that falls on the facility that is not in contact with process wastewater, including the parking area and roof areas, is discharged to an on-site storm water storage pond. The storm water pond location is shown on Attachment C. All storm water is retained on-site.

21. Domestic wastewater is disposed of separately from the process winery wastewater in an on-site septic system. The system is regulated by the San Joaquin County Environmental Health Department.

Facility Changes

22. The Discharger has proposed to construct two new wastewater ponds, Pond A and Pond B, if needed to prevent odors. If dissolved oxygen levels are consistently low over harvest seasons and odors become an issue in the existing ponds, Ponds A and B would be constructed in the locations shown on Attachment C. Both ponds would each have an estimated capacity of approximately 700,000 gallons, be double lined with a synthetic liner, and equipped with leak detection systems. If constructed, the

wastewater would be directed from the headworks to Pond A. The proposed wastewater flow direction is shown on Attachment D.

Site-Specific Conditions

23. The site topography is relatively flat. According to the Soil Survey of San Joaquin County, soils consist of San Joaquin Loam and Bruella Sandy Loam. Minimum infiltrations rates published in the Soil Survey are 0.06 inches per hour.
24. Surface water in the area drains via sheet flow south toward Jahant Slough, which is located along the southern boundary of the property.
25. Average annual rainfall for the Acampo area is 14.06 inches per year (in/year); the 100-year return annual total rainfall is 33.36 in/year; evapotranspiration rate for the Lodi area is 65.15 in/year.
26. The facility is within the Lower Mokelumne Hydrologic Area (No. 531.20), as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1986.
27. The winery is outside the 100-year flood zone. A Federal Emergency Management Agency (FEMA) map identified a small portion of the new LAA located within a Special Flood Hazard Area (Zone A).
28. The neighboring land uses include vineyards that are commercially harvested.

Groundwater Conditions

29. The existing groundwater monitoring well network consists of three groundwater monitoring wells (MW-1 to MW-3) installed in 2006. Depths to groundwater in these wells, as of May 2019, range from approximately 50 to 55 feet below ground surface (bgs). Well construction details are summarized below.

Table 7. Groundwater Monitoring Wells

Well ID	Location	Screen Interval (feet bgs)
MW-1	Upgradient	37 – 57
MW-2	Downgradient	37.5 – 59.5
MW-3	Downgradient	38 - 58

30. Groundwater flow direction is generally east/south-east, with a calculated gradient of 0.0004 feet per foot. Since 2006, groundwater flow directions have been generally consistent.

31. Groundwater data have been collected from the monitoring wells since 2006. Data are summarized below. (Note: Data summarized for nitrate as nitrogen includes data collected between 2014 through First Quarter 2019 and data for sodium, chloride, and iron include data from 2017 to First Quarter 2019.)

Table 8. Groundwater Quality (mg/L)

Well ID		TDS	Nitrate as Nitrogen	Sodium	Chloride	Iron
MW-1	Range	210 – 730	2.1 – 31	37 – 48	10 – 83	0.42 – 1.8
	Ave	546	22	44	51	1.1
MW-2	Range	410 – 650	8.1 – 15	49 – 55	57 – 77	0.34 – 0.38
	Ave	483	11	52	66	0.36
MW-3	Range	450 - 739	1.2 – 39	29 – 40	90 – 124	0.56 – 8.6
	Ave	620	5	33	105	4.58

32. Average annual concentrations of nitrate as nitrogen in groundwater monitoring wells MW-1 to MW-3 exceed the concentrations protective of beneficial use (10 mg/L for nitrate as nitrogen).

33. Average annual concentrations of iron in all three wells, including the upgradient well, exceed 0.3 mg/L, the concentration protective of beneficial use.

34. Concentration trends for TDS, nitrate as nitrogen, sodium, chloride, and iron in all three monitoring wells, show stable concentrations over time, except for nitrate as nitrogen in MW-2 (downgradient well). Concentration trends for nitrate in MW-2 show increasing trends. However, average concentrations of nitrate as nitrogen in upgradient well MW-1 are higher than concentrations in downgradient well MW-2.

Basin Plan, Beneficial Uses, and Regulatory Considerations

35. *The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fifth Edition, rev. May 2018* (Basin Plan) designates beneficial uses, established water quality objective (WQOs), contains implementation plans and policies for protection waters of the basin, and incorporates by reference plans and policies adopted by the State Water Board. Pursuant to Water Code section 13263, subdivision (a), WDRs are required to implement the Basin Plan.

36. The beneficial uses of surface water in the area, as stated in the Basin Plan, are agricultural supply; domestic supply; contact recreation (REC-1); non-contact recreation (REC-2); warm and cold freshwater habitat; warm water migration; warm and cold water spawning; and wildlife habitat.

37. Beneficial uses of underlying groundwater as set forth in the Basin Plan are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

38. The Basin Plan establishes narrative WQOs for chemical constituents, tastes, and odors, and toxicity in groundwater. It also sets forth a numeric WQO for total coliform organisms.
39. The Basin Plan's numeric WQO for bacteria requires that the most probably number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MUN groundwater.
40. The Basin Plan's narrative WQOs for chemical constituents, at a minimum, require MUN-designated water to meet the maximum contaminant levels (MCLs) in the California Code of Regulations, title 22 (Title 22). The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that water does not contain chemical constituents in concentrations that adversely affect beneficial uses.
41. The narrative toxicity WQO requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses.
42. Quantifying a narrative WQO requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative WQO is required to protect specific beneficial uses, the Central Valley Water Board will, on a case-by-case basis, adopt numerical limitations in order to implement the narrative WQO.
43. In the absence of specific numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as *Water Quality for Agricultural* by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an EC less than 700 $\mu\text{mhos/cm}$. There is, however, an eight- to ten-fold range in salt tolerance for agriculture crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with water having EC up to 3,000 micromhos per centimeter ($\mu\text{mhos/cm}$) if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop. The list of crops in Finding 15 is not intended as a definitive inventory of crops that are or could be grown in the area affected by the discharge, but it is representative of current and historical agricultural practices in the area.
44. The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. On 16 October 2019, the State Water Resources Control Board adopted a resolution approving the Central Valley Water Board Basin Plan amendments and also directed the Central Valley Water Board to make targeted revisions to the Basin Plan amendments within one year from the approval of the Basin Plan amendments by the Office of Administrative Law. These programs, once active,

could change how the Central Valley Water Board permits discharges of salt and nitrate. The Salinity Control Program currently being developed would subject dischargers who do not meet stringent salinity numeric values (monthly average EC of 700 $\mu\text{mhos/cm}$ to protect AGR beneficial use and annual average EC of 900 $\mu\text{mhos/cm}$ to protect MUN beneficial use) to performance-based salinity requirements and would require those dischargers to participate in a Basin-wide Prioritization and Optimization Study to develop a long term strategy for addressing salinity accumulation in the Central Valley.

45. The level of participation required of dischargers whose discharges do not meet stringent salinity requirements will vary based on factors such as the amount of salinity in the discharge, local conditions, and type of discharge. The Central Valley Water Board anticipates that the Salt and Nitrate Control Program initiative will result in regulatory changes that will be implemented through conditional prohibitions and modifications to many WDRs region-wide, including the WDRs that regulate discharges from the Facility. More information regarding this regulatory planning process can be found on the [Central Valley Water Board CV-SALTS website](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/) (https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/).
46. For nitrate, dischargers that are unable to comply with stringent nitrate requirements will be required to take on alternate compliance approaches that involve providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers will comply with the new nitrate program either individually or collectively with other dischargers. For salinity, dischargers that are unable to comply with stringent salinity requirements would instead need to meet performance-based requirements and participate in a basin-wide effort to develop a long-term salinity strategy for the Central Valley. This Order may be amended or modified to incorporate any newly applicable requirements.
47. The stakeholder-led initiative, Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS), coordinates efforts to implement the new salt and nitrate management strategies. The Central Valley Water Board expects dischargers that may be affected by new salt and nitrate management policies to coordinate with the CV-SALTS initiative.

Special Considerations for High Strength Waste

48. For the purpose of this Order, “high strength waste” is defined as wastewater that contains concentrations of readily degradable organic matter that exceed typical concentrations for domestic sewage. Such wastes contain greater than 500 mg/L BOD and often contain commensurately high levels of total Kjeldahl nitrogen (TKN), which is a measure of organic nitrogen and ammonia nitrogen. Typical high strength wastewaters include septage, some food processing wastes, winery wastes, and rendering plant wastes.

49. Excessive application of high organic strength wastewater to land can create objectionable odors, soil conditions that are harmful to crops, and degradation of underlying groundwater by overloading the soil profile and causing waste constituents (i.e., organic carbon, nitrates, other salts, and metals) to percolate below the root zone. Such groundwater degradation can be prevented or minimized through implementation of best management practices which include planting crops to take up plant nutrients and maximizing oxidation of BOD to prevent nuisance conditions.
50. Unless groundwater is very shallow, groundwater degradation with nitrogen species such as ammonia and nitrate can be prevented by minimizing percolation below the root zone of the crops and ensuring that the total nitrogen load does not exceed crop needs over the course of a typical year. Where there is sufficient unsaturated soil in the vadose zone, excess nitrogen can be mineralized and denitrified by soil microorganisms.
51. With regard to BOD, excessive application of high organic strength wastewater can deplete oxygen in the vadose zone and lead to anoxic conditions. At the ground surface, this can result in nuisance odors and fly-breeding. When insufficient oxygen is present below the ground surface, anaerobic decay of the organic matter can create reducing conditions that convert metals that are naturally present in the soil as relatively insoluble (oxidized) forms to more soluble reduced forms. This condition can be exacerbated by acidic soils and/or acidic wastewater. If the reducing conditions do not reverse as the percolate travels down through the vadose zone, these dissolved metals (primarily iron, manganese, and arsenic) can degrade shallow groundwater quality. Many aquifers contain enough dissolved oxygen to reverse the process, but excessive BOD loading over extended periods may cause beneficial use impacts associated with these metals.
52. Typically, irrigation with high strength wastewater results in high BOD loading on the day of application. It is reasonable to expect some oxidation of BOD at the ground surface, within the evapotranspiration zone and below the root zone within the vadose (unsaturated) zone. The maximum BOD loading rate that can be applied to land without creating nuisance conditions or leaching of metals can vary significantly depending on soil conditions and operation of the land application system.
53. *Pollution Abatement in the Fruit and Vegetable Industry*, published by the United States Environmental Protection Agency (USEPA), cites BOD loading rates in the range of 36 to 600 lb/acre-day to prevent nuisance, but indicates the loading rates can be even higher under certain conditions. The studies that supported this report did not evaluate actual or potential groundwater degradation associated with those rates. There are few studies that have attempted to determine maximum BOD loading rates for protection of groundwater quality. Those that have been done are not readily adapted to the varying soil, groundwater, and climate conditions that are prevalent throughout the region.

54. The California League of Food Processors' *Manual of Good Practice for Land Application of Food Processing/Rinse Water* proposes risk categories associated with particular BOD loading rate ranges as follows:
- a. Risk Category 1: (less than 50 lb/ac/day; depth to groundwater greater than 5 feet) Indistinguishable from good farming operations with good distribution important.
 - b. Risk Category 2: (less than 100 lb/ac/day; depth to groundwater greater than 5 feet) Minimal risk of unreasonable groundwater degradation with good distribution more important.
 - c. Risk Category 3: (greater than 100 lb/ac/day; depth to groundwater greater than 2 feet) Requires detailed planning and good operation with good distribution very important to prevent unreasonable degradation, as well as use of oxygen transfer design equations that consider site-specific application cycles and soil properties and special monitoring.

The *Manual of Good Practice* recommends allowing a 50 percent increase in the BOD loading rates in cases where sprinkler irrigation is used but recommends that additional safety factors be used for sites with heavy and/or compacted soils. The *Manual of Good Practice* also states that the use of surface irrigation (boarder check method) makes uniform application difficult, especially for coarse textured soils.

55. Although it has not been subject to a scientific peer review process, the *Manual of Good Practice* provides science-based guidance for BOD loading rates that, if fully implemented, are considered a best management practice to prevent groundwater degradation due to reduced metals.
56. This Order sets an irrigation cycle average BOD loading rate for the new LAA of 100 lb/acre/day for flood irrigated areas consistent with Risk Category 2 and 150 lb/acre/day for sprinkler irrigated acres consistent with Risk Category 3 in the *Manual of Good Practice* and requires the Discharger to ensure reasonably even application of wastewater over the available land application areas.

Antidegradation Analysis

57. The State Water Board's Statement of Policy with Respect to Maintaining High Quality Waters of the State, Resolution No. 68-16 (Antidegradation Policy) prohibits degradation of groundwater unless it has been shown that:
- a. The degradation is consistent with the maximum benefit to the people of the state.
 - b. The degradation will not unreasonably affect present and anticipated future beneficial uses.

- c. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives, and
- d. The discharger employs best practicable treatment or control (BPTC) to minimize degradation.

58. Degradation of groundwater by some of the typical waste constituents associated with discharges from a food processing facility, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The Discharger's operation provides full time and seasonal employment. In addition, the Discharger provides a needed service for local growers, trucking services, and equipment manufacturers as well as a tax base for local and county governments. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State and provides sufficient justification for allowing limited groundwater degradation that may occur pursuant to this Order.

59. The Discharger has been monitoring groundwater quality at the site since 2006. Based on the data available, it is not possible to determine pre-1968 groundwater quality. Therefore, determination of compliance with the Antidegradation Policy for this facility must be based on existing background groundwater quality.

60. Constituents of concern that have the potential to degrade groundwater include primarily TDS, sodium, chloride, and nitrate as nitrogen. Average concentrations for each constituent are shown below.

For effluent results, a flow weighted average was calculated using data collected between 2015 and 2018. Upgradient groundwater data are compiled from groundwater monitoring well MW-1; average concentrations calculated from data collected from 2015-2018. Downgradient groundwater data are compiled from MW-2 and MW-3; average concentrations calculated from data collected from 2015-2018. Concentrations protective of beneficial use are based on the following: Secondary Maximum Contaminant Upper Level for TDS; Primary Maximum Contaminant Level (MCL) for nitrate as nitrogen; Lowest agricultural water quality goal for sodium; and Secondary Maximum Contaminant Upper Level for chloride.

Table 9. Antidegradation Summary

Constituent (mg/L)	Effluent	Upgradient Groundwater	Downgradient Groundwater	Concentration Protective of Beneficial Use
BOD	78	Not analyzed	Not analyzed	Not established
FDS	673	Not analyzed	Not analyzed	Not established
TDS	933	515	562	1,000
Nitrate as N	6.1	21	12	10
Sodium	Not analyzed	48	45	69

Constituent (mg/L)	Effluent	Upgradient Groundwater	Downgradient Groundwater	Concentration Protective of Beneficial Use
Chloride	Not analyzed	81	84	500

- a. **Total Dissolved Solids.** For the purposes of evaluation, TDS is considered representative of overall salinity and groundwater and the best measure for total salinity in the process wastewater is FDS. Data summarized in the table above shows that concentrations of TDS in upgradient and downgradient are relatively equivalent. Although concentrations of FDS in the effluent are higher than TDS groundwater concentrations, it appears that the depth to groundwater (approximately 55 feet bgs) and implementation of best management practices by the Discharger (such as the use of sprinkler application for better control of wastewater distribution) have limited impacts to groundwater. Concentration trends for TDS in groundwater for up- and downgradient wells have been stable since the monitoring of the wells began in 2006. This indicates that the discharge is not likely impacting groundwater beyond existing background conditions.

For the continued protection of groundwater, this Order requires continued groundwater monitoring, does not allow an exceedance of the concentration protective of beneficial use for TDS, and sets an effluent limit for FDS.

- b. **Nitrate.** For nutrients such as nitrate, the potential for groundwater degradation depends on wastewater quality; crop update; and the ability of the vadose zone below the LAAs to support nitrification and denitrification to convert the nitrogen to gas before it reaches the water table.

Nitrate as nitrogen concentrations in effluent have consistently been less than 10 mg/L. Upgradient background groundwater quality is poor with respect to nitrate, with an average upgradient background concentration of 21 mg/L, which exceeds the concentration protective of beneficial use for groundwater of 10 mg/L. Concentrations in downgradient groundwater exceed 10 mg/L but are generally less than upgradient concentrations. In addition, nitrate concentration trends in groundwater have been stable over time, except in MW-2. Increasing trends have been observed in this well; however, concentrations in MW-2 are less than upgradient concentrations. The LAAs where MW-2 is located will no longer receive wastewater once the new LAAs received wastewater. This well will continue to be monitored until it is shown that concentrations have stabilized or are decreasing after at least an additional eight consecutive sampling events.

For the continued protection of groundwater, this Order sets a total nitrogen loading limit for the LAAs and requires that the discharge does not cause a statically significant increase in nitrate concentrations in groundwater.

- d. **Sodium and Chloride.** The wastewater effluent has not been monitored for sodium or chloride but are known to be key salinity constituents in winery wastewater. Sodium and chloride concentrations reported in upgradient well MW-1 are less than concentrations protective of beneficial use. Concentrations of sodium and chloride in downgradient wells MW-2 and MW-3 are relatively equivalent to upgradient concentrations, indicating the discharge is not likely impacting groundwater beyond existing upgradient conditions.

For the continued protection of groundwater, this Order does not allow groundwater concentrations for sodium and chloride to exceed concentrations protective of beneficial use or a statistically significant increase in groundwater concentrations.

61. The Discharger provides treatment and control of the discharge that incorporates:

- a. Aerated, double-lined wastewater and effluent ponds, each with leak detection systems;
- b. Screening wastewater to remove solids prior to discharging to the wastewater ponds;
- c. Controlling and evenly applying wastewater to the LAAs; and
- d. Utilizing UV light for sanitation purposes, which reduces chemical usage.

The Discharger's implementation of these practices is considered BPTC for the wastes in the discharge. This Order requires the Discharger to maintain these practices consistent with the State Antidegradation Policy.

Other Regulatory Considerations

62. In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. Although not subject to section 106.3, this order promotes that policy by requiring discharges to meet MCLs designed to protect human health and ensure that water is safe for domestic use.

63. Based on the threat and complexity of the discharge, the facility is determined to be classified as 3C as defined below:

- a. Category 3 threat to water quality: *“Those discharges of waste that could degrade water quality without violating water quality objective or could cause a minor impairment of designed beneficial uses as compare with Category 1 and Category 2.”*
- b. Category C complexity, defined as: *“Any discharger for which waste discharge requirements have been prescribed pursuant to Section 13263 of the Water Code*

not included in Category A or Category B as described above. Included are dischargers having no waste treatment systems or that must comply with best management practices, dischargers having passive treatment and disposal systems, or dischargers having waste storage systems with land disposal.”

64. As authorized under this Order, discharges of wastewater and decomposable food processing residual solids to land are exempt from the prescriptive requirements of California Code of Regulation, title 27 (Title 27). See Title 27, §20090, subds. (b)-(d).
65. Statistical data analyzes methods set forth in the USEPA’s Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance (Unified Guidance) are appropriate for determining whether the discharge complies with Groundwater Limitation of this Order.
66. The State Water Board adopted Order 2014-0057-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. All storm water at the Facility is collected in the storm water basin or commingled with process wastewater and discharged to the LAAs. Storm water is not discharged offsite or discharged to waters of the U.S. Coverage under the NPDES General Permit CAS000001 is not required at this time.
67. Water Code section 13267, subdivision (b)(1) provides:
- [T]he regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region... shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports.
- The technical reports required by this Order and the attached Monitoring and Reporting Program **R5-2020-0021** are necessary to ensure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.
68. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (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 used to monitor the impacts of wastewater storage or disposal governed by this Order.

69. San Joaquin County has previously determined that the operation of this facility does not require the County to undertake a discretionary approval under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). All wastewater management systems at the facility have already been installed and are currently in use. In addition, the issuance of this Order, which prescribes requirements and monitoring of waste discharges at an existing facility, with negligible or no expansion of its existing use, is exempt from the procedural requirements of CEQA, Public Resources Code section 21000 et seq., pursuant to California Code of Regulations, title 14, section 15301 (CEQA Guidelines). The discharges authorized under this Order are substantially within parameters established under prior WDRs, particularly with respect to character and volume of discharges.

To the extent that the construction of any new basins, ponds and/or surface impoundments are authorized under this Order, such features involve minor alterations to land, which are exempt from CEQA procedural requirements pursuant to California Code of Regulations, title 14, section 15304 (CEQA Guidelines).

This Order is further exempt from CEQA procedural requirements insofar as it is adopted for protection of the environment and does not authorize construction activities or the relaxation of standards allowing for environmental degradation, in accordance with California Code of Regulations, title 14, section 15308 (CEQA Guidelines).

This Order is further exempt from CEQA procedural requirements because it can be seen with certainty that there is no possibility that the discharges and activities authorized herein will have a significant effect on the environment. (See Cal. Code Regs., tit. 14, § 15061, subd. (b)(3) [CEQA Guidelines].)

70. Pursuant to Water Code section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

Public notice

71. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.

72. The Discharger and interested agencies and persons have been notified of the Central Valley Water Board's intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity to submit written comments and an opportunity for a public hearing.

73. All comments pertaining to the discharge were heard and considered in a public hearing.

IT IS HEREBY ORDERED that Order R5-2006-0088 is rescinded and pursuant to Water Code sections 13263 and 13267, Jahant Wood Cellars, L.P., its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted hereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Discharge of waste classified as 'hazardous', as defined in the Title 22, section 66261.1 et seq., is prohibited.
3. Discharge of waste classified as 'designated', as defined in Water Code section 13173, in a manner that causes violation of groundwater limitations, is prohibited.
4. Treatment system bypass of untreated or partially treated waste is prohibited, except as allowed by Standard Provision E.2 of the Standard Provisions and Reporting Requirements for WDRs, 1 March 1991 ed. (SPRRs or Standard Provisions).
5. Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.
6. Discharge of toxic substances into any wastewater treatment system or land application area such that biological treatment mechanisms are disrupted is prohibited.
7. Discharge of domestic wastewater to the process wastewater treatment system is prohibited.
8. Discharge of process wastewater to the domestic wastewater treatment system (septic system) is prohibited.
9. Discharge of domestic wastewater to the process wastewater ponds, land application areas, or any surface waters is prohibited.

B. Flow limitations

1. Effective immediately, flows to Pond C, measured using the flow meter at the headworks, shall not exceed the following limits:

Flow Measurement	Flow Limits
Maximum Average Daily Flow	70,000 gpd (As determined by the total flow during the calendar month divided by the number of days in that month.)

Flow Measurement	Flow Limits
Total Annual Flow	19.4 million gallons (As determined by the total flow for the calendar year.)

C. Effluent Limitations

1. The total volume of treated wastewater, storm water, and supplemental irrigation water applied to the LAA shall not exceed an **FDS annual average concentration of 900 mg/L**. The FDS flow weighted average is based on total flow and concentration for each source of water discharged.

D. Mass Loading Limitations

1. The blend of treated wastewater, storm water, and supplemental irrigation water applied to the LAAs shall not exceed the following mass loading limits:

Constituent	Units	Irrigation Cycle Average	Annual Maximum
BOD Mass Loading for Sprinkler Irrigated Acres	lb/ac/day	150	--
BOD Mass Loading for Flood Irrigated Acres	lb/ac/day	100	--
Total Nitrogen Mass Loading	lb/ac/year	--	Crop Demand

Compliance with the above requirements shall be determined as specified in the Monitoring and Reporting Program (MRP).

E. Discharge Specifications

1. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitation of this Order.
2. Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050.
3. The discharge shall remain within the permitted waste treatment/containment structure and land application areas at all times.
4. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
5. All conveyance, treatment, storage, and disposal systems for wastewater shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

6. Objectionable odors shall not be perceivable beyond the limits of the property where the waste is generated, treated, and/or discharged at an intensity that creates or threatens to create nuisance conditions.
7. The Discharger shall design, construct, operate, and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. The operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at a design capacity and enable determination of available operational freeboard.
8. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring continuous compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
9. On or about 1 October of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications E.7 and E.8.
10. All ponds and open containment structures shall be managed to prevent breeding of mosquitos. Specifically:
 - a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
 - d. Dead algae, vegetation, and debris shall not accumulate on the water surface.
 - e. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.
11. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.
12. The Discharger shall monitor sludge accumulation in the wastewater treatment/storage ponds at least every five years beginning in **2026** and shall periodically remove sludge as necessary to maintain adequate storage capacity.

13. Storage of residual solids, including organic food processing byproducts such as culls, pulp, stems, leaves, and seeds, on areas not equipped with means to prevent storm water infiltration, or a paved leachate collection system is prohibited.

F. Groundwater Limitations

Release of waste constituents from any portion of the facility shall not cause groundwater to:

1. Contain any of the specified constituents in a concentration statistically greater than the maximum allowable concentration tabulated below. The wells to which these requirements apply are specified in the MRP.

Constituent	Maximum Allowable Concentration
TDS	Current Groundwater Quality or Concentration Protective of Beneficial Use, whichever is greater
Nitrate as N	Current Groundwater Quality or Concentration Protective of Beneficial Use, whichever is greater
Sodium	Current Groundwater Quality or Concentration Protective of Beneficial Use, whichever is greater
Chloride	Current Groundwater Quality or Concentration Protective of Beneficial Use, whichever is greater

Note: Current groundwater quality will be defined using approved statistical methods as described in an approved *Groundwater Limitation Compliance Assessment Plan*, per Provision I.1.c.

2. For all compliance monitoring wells, except as specified in Section F.1 above, contain constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22.
3. For all compliance monitoring wells, except as specified in F.1 above, contain taste and odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.
4. Compliance with these limitations shall be determined annually as specified in the Monitoring and Reporting Program using approved statistical methods.

G. Land Application Area Specifications

1. Crops or other vegetation (which may include, but is not limited to, pasture grasses, native grasses and trees, and/or ornamental landscaping) shall be grown in the LAAs.

2. Wastewater shall be distributed uniformly on adequate acreage within the LAAs to preclude the creation of nuisance conditions or unreasonable degradation of groundwater.
3. The Discharger shall maximize the use of the available LAAs to minimize waste constituent loading.
4. Hydraulic loading of wastewater and irrigation water shall be at reasonable agronomic rates.
5. Land application of wastewater shall be managed to minimize erosion.
6. The LAAs shall be managed to prevent breeding of mosquitos or other vectors.
7. LAAs shall be designated, maintained, and operated to comply with the following setback requirements:

Setback Definition	Minimum Irrigation Setback (feet)
Edge of LAA to property boundary	25
Edge of LAA to manmade or natural surface water drainage	25
Edge of LAA to domestic water supply well	100

8. LAAs shall be inspected periodically to determine compliance with the requirements of this Order. If an inspection reveals noncompliance or threat of noncompliance with this Order, the Discharger shall temporarily stop discharging immediately in the area of concern, such as the specific field where the issue has occurred and implement correction actions to ensure compliance with this Order.
9. Any irrigation runoff (tailwater) shall be confined to the LAAs or returned to a treatment pond and shall not enter any surface water drainage course or storm water drainage system.
10. Once the new 55.5 acre parcel (new LAA) receives wastewater, wastewater and solids will no longer be discharged to the former LAAs.

H. Solids Disposal Specifications

For the purposes of this Order, “sludge” means the solid, semisolid, and liquid organic matter removed from wastewater treatment, settling, and storage vessels or ponds; “solid waste” refers to solid inorganic matter removed by screens and soil sediments from washing of unprocessed fruit or vegetables; and “residual solids” mean organic food processing byproducts such as culls, pulp, stems, leaves, and seeds that will not

be subject to treatment prior to disposal or land application (solids originating from meat processing are excluded from this definition).

1. Sludge and solid waste shall be removed from screens, sumps, ponds, and clarifiers as needed to ensure optimal operation and adequate storage capacity.
2. Any handling and storage of sludge, solid waste, and residual solids shall be controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into solids in a mass or concentration that will violate the groundwater limitations of this Order.
3. Sludge and residual solids may be discharged to land in accordance with the Land Application Area Specifications of this Order.
4. If removed from the site, sludge, solid waste, and residual solids shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27, division 2. Removal for reuse as animal feed, or land disposal at facilities (i.e., landfills, composting facilities, soil amendment sites operated in accordance with valid waste discharge requirements issued by the Regional Water Board) will satisfy this specification.
5. Any proposed change in solids or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

I. Provisions

1. The following reports shall be submitted pursuant to Water Code section 13267, and shall be prepared in accordance with Provision I.5 of this Order:
 - a. **By 1 September 2020**, the Discharger shall submit a *Groundwater Monitoring Well Installation Workplan* that proposed at least two additional compliance monitoring wells to ensure adequate monitoring downgradient of the new LAA. The workplan shall be prepared in accordance with, and include the items listed in, the first section of Attachment E; "Requirements for Monitoring Well Installation Workplans and Monitoring Well Installation Reports", which is attached hereto. The groundwater monitoring wells shall be designed to yield samples representative of the uppermost portion of the first water-bearing interval underlying the LAA.
 - b. **Within 90 days of the installation of at least two groundwater monitoring wells in the new LAA**, the Discharger shall submit a *Groundwater Monitoring Well Installation Completion Report* documenting the construction details of the wells.
 - c. **Within 90 days from the submittal of the Groundwater Monitoring Well Installation Completion Report**, the Discharger shall submit a *Groundwater*

Limitations Compliance Assessment Plan. The Plan shall propose and justify the values to be used to determine “current groundwater quality” for each of the compliance, including the newly installed wells, listed in the MRP using intrawell evaluations. In addition, the plan shall propose and justify the statistical methods used to evaluate compliance with the Groundwater Limitation of this Order using appropriate statistical methods that have been selected based on site-specific information and the U.S. EPA Unified Guidance document cited in Finding 65 of this Order.

- d. **By 1 September 2020**, the Discharger shall submit a *Nutrient and Salt Management Plan* that evaluates the nutrient load to each land application area and develops and implements pollution prevention management practices to restrict nutrient loading for the specified crop and ensures compliance with this Order.
 - e. **Within 60 days of completing construction of additional ponds** (described in Finding 22), the Discharger shall submit a *Construction Completion Report* prior to discharging wastewater to the newly constructed pond(s). The report shall describe the final pond dimensions and capacities and include any other information regarding the pond(s).
 - f. **If after eight consecutive sampling events for MW-2** (as discussed in Finding 60.b), concentrations of nitrate as nitrogen in MW-2 show a decreasing or stable trend, groundwater monitoring will no longer be required for MW-2. To discontinue monitoring MW-2, the Discharger shall submit a technical report documenting the results of the eight sampling events and summarizing concentrations trends. Upon approval by the Executive Officer, MW-2 can be decommissioned.
 - g. **Within 60 days of decommissioning MW-2**, the Discharger shall submit a report documenting the details of the decommissioning of MW-2.
2. If groundwater monitoring results show that the discharge of waste is causing groundwater to contain any waste constituents in concentrations statistically greater than the Groundwater Limitations of this Order based on intrawell evaluations, within 120 days of the request of the Executive Officer, the Discharger shall submit a *BPTC Evaluation Workplan* that sets forth the scope and time schedule for a systematic and comprehensive technical evaluation of each component of the facility’s waste treatment and disposal system to determine best practicable treatment and control for each waste constituent that exceeds a Groundwater Limitation. The schedule to complete the evaluation shall be as short as practicable and shall not exceed one year. Alternatively, if it can be shown that the increase is the result of activities outside the Discharger’s control, a technical report shall be submitted that justifies and supports that determination.

3. A discharger whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the discharger shall notify the Central Valley Water Board by **31 January**.
4. In accordance with Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgements shall be performed by or under the direction of a registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.
5. The Discharger shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.
6. The Discharger shall comply with Monitoring and Reporting Program **R5-2020-0021**, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP.
7. The Discharger shall comply with the Standard Provisions and Reporting Requirements for Waste Discharge Requirements dated 1 March 1991 (SPRR or Standard Provisions), which are attached hereto and made part of this Order by reference.
8. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley

Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

9. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.
10. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.
11. Per the Standard Provisions, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.
12. In the event that the Discharger reports toxic chemical release data to the State Emergency Response Commission (SERC) pursuant to section 313 of the Emergency Planning and Community Right to Know Action (42 U.S.C. § 11023), the Discharger shall also report the same information to the Central Valley Water Board within 15 days of the report to the SERC.
13. At least 90 days prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Central Valley Water Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
14. In the event of any change in control or ownership of the facility, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
15. To assume operation as Discharger under this Order, the succeeding owner or operation must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of the corporation if a corporation, the name and address and telephone phone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. If approved by the

Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

16. A copy of this Order including the MRP, Information Sheet, Attachments, and Standard Provisions, shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.

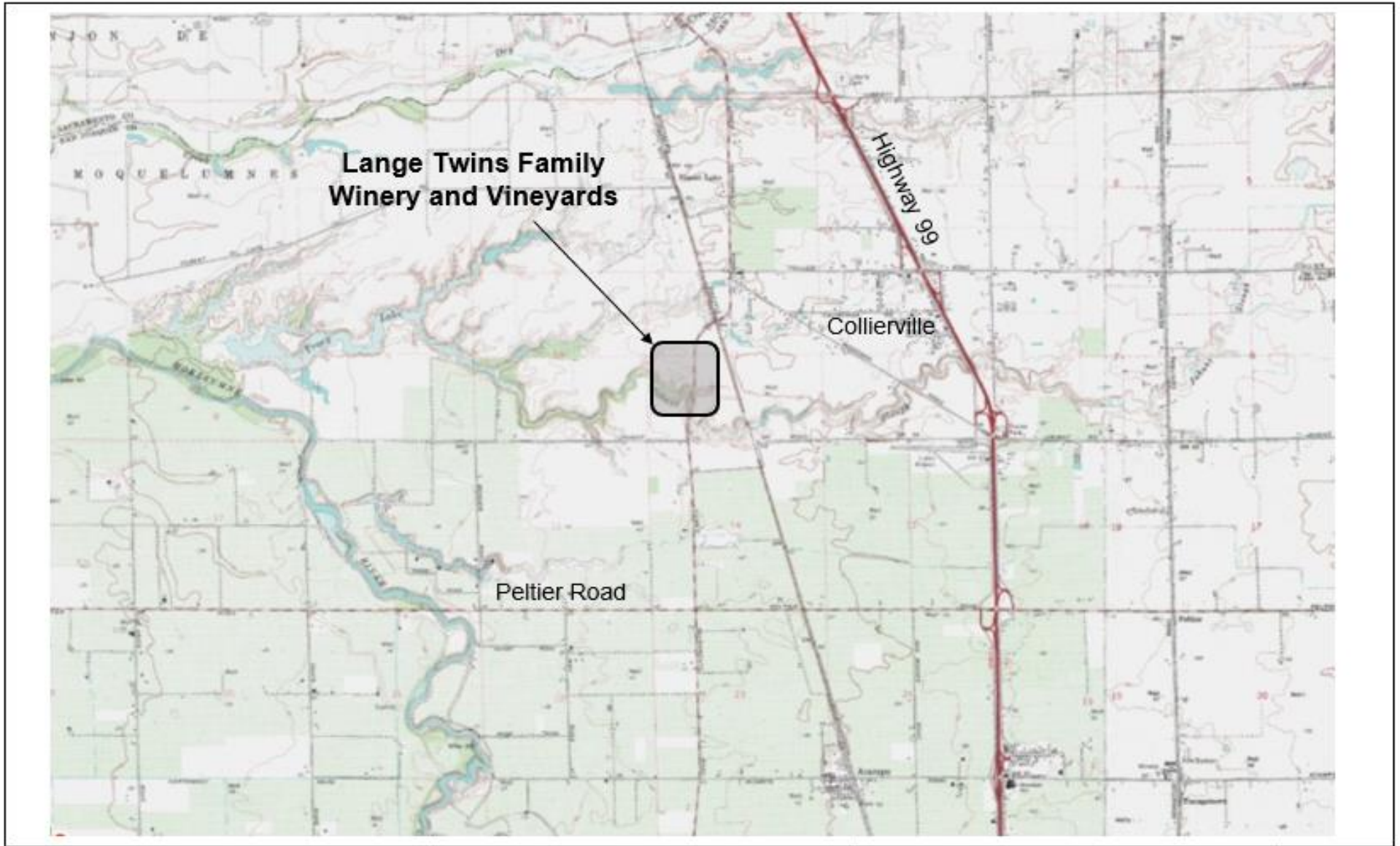
17. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350, and 13385. The Central Valley Water Board reserves the right to take any enforcement actions authorized by law.

Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions are available via the [Water Board's Webpage for Public Notices](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) (http://www.waterboards.ca.gov/public_notices/petitions/water_quality).

I, PATRICK PULUPA, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board on 16 April 2020.

PATRICK PULUPA, Executive Officer



~ 1 mile

SITE LOCATION MAP

JAHANT WOOD CELLARS, LP

LANGE TWINS FAMILY WINERY AND VINEYARDS

SAN JOAQUIN COUNTY



Legend

⊗ Groundwater Monitoring Well

Figure Reference: Google Earth, 2018



SITE FEATURES MAP

JAHANT WOOD CELLARS, L.P.
LANGE TWINS FAMILY WINERY AND
VINEYARDS

SAN JOAQUIN COUNTY



Legend

- ⊗ Groundwater Monitoring Well
- > Wastewater flow direction

Figure Reference: Google Earth, 2018

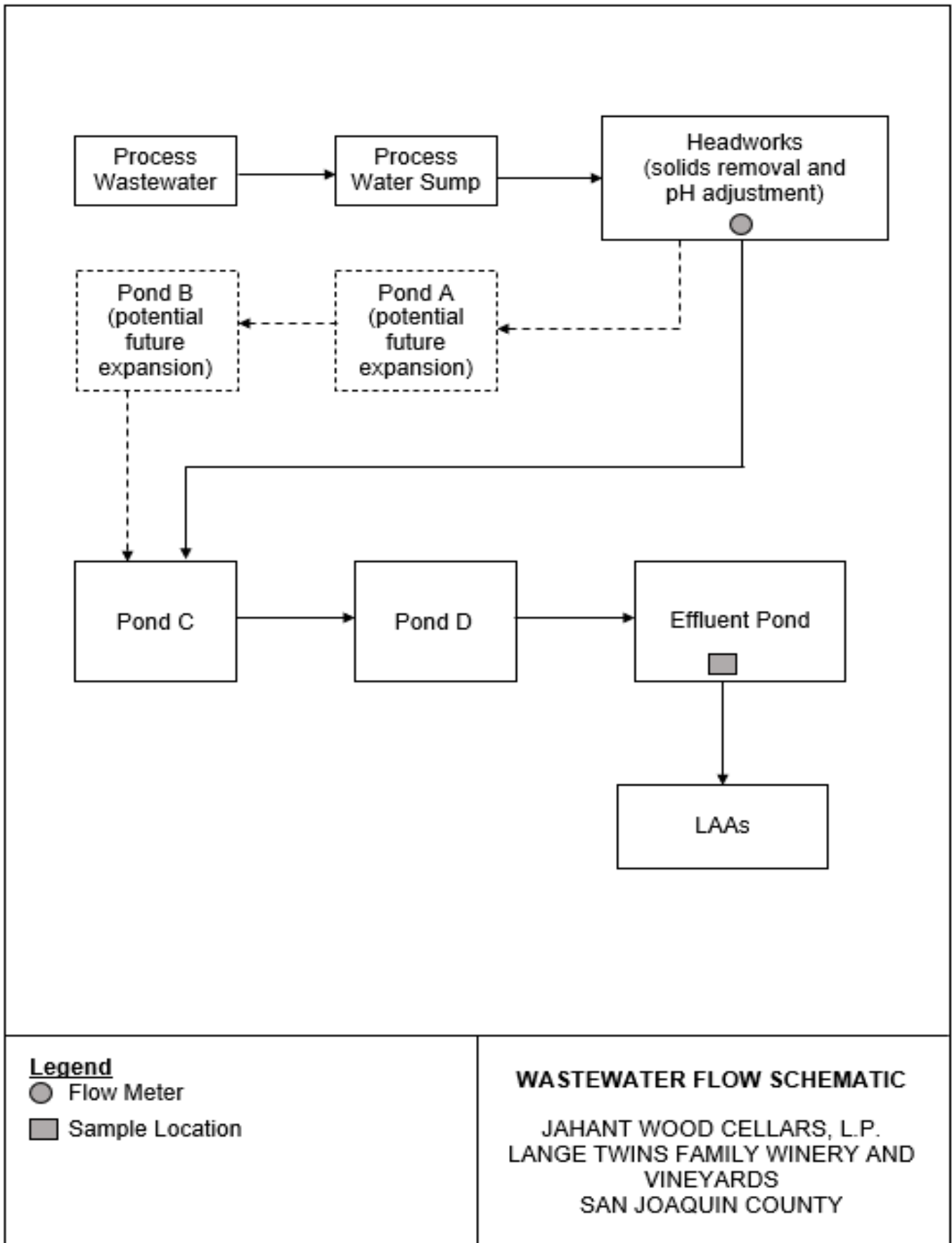


~ 350 feet

WASTEWATER PONDS LOCATION MAP

JAHANT WOOD CELLARS, L.P.
 LANGE TWINS FAMILY WINERY AND
 VINEYARDS

SAN JOAQUIN COUNTY



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

STANDARD PROVISIONS AND REPORTING REQUIREMENTS
FOR
WASTE DISCHARGE REQUIREMENTS

1 March 1991

A. General Provisions:

1. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, or protect the Discharger from liabilities under federal, state, or local laws. This Order does not convey any property rights or exclusive privileges.
2. The provisions of this Order are severable. If any provision of this Order is held invalid, the remainder of this Order shall not be affected.
3. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - a. Violation of any term or condition contained in this Order;
 - b. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;
 - c. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge;
 - d. A material change in the character, location, or volume of discharge.
4. Before making a material change in the character, location, or volume of discharge, the discharger shall file a new Report of Waste Discharge with the Regional Board. A material change includes, but is not limited to, the following:
 - a. An increase in area or depth to be used for solid waste disposal beyond that specified in waste discharge requirements.
 - b. A significant change in disposal method, location or volume, e.g., change from land disposal to land treatment.
 - c. The addition of a major industrial, municipal or domestic waste discharge facility.
 - d. The addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the waste.

Waste Discharge to Land

5. Except for material determined to be confidential in accordance with California law and regulations, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Board. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.
6. The discharger shall take all reasonable steps to minimize any adverse impact to the waters of the state resulting from noncompliance with this Order. Such steps shall include accelerated or additional monitoring as necessary to determine the nature and impact of the noncompliance.
7. The discharger shall maintain in good working order and operate as efficiently as possible any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.
8. The discharger shall permit representatives of the Regional Board (hereafter Board) and the State Water Resources Control Board, upon presentations of credentials, to:
 - a. Enter premises where wastes are treated, stored, or disposed of and facilities in which any records are kept,
 - b. Copy any records required to be kept under terms and conditions of this Order,
 - c. Inspect at reasonable hours, monitoring equipment required by this Order, and
 - d. Sample, photograph and video tape any discharge, waste, waste management unit, or monitoring device.
9. For any electrically operated equipment at the site, the failure of which would cause loss of control or containment of waste materials, or violation of this Order, the discharger shall employ safeguards to prevent loss of control over wastes. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.
10. The fact that it would have been necessary to halt or reduce the permitted activity in Order to maintain compliance with this Order shall not be a defense for the discharger's violations of the Order.
11. Neither the treatment nor the discharge shall create a condition of nuisance or pollution as defined by the California Water Code, Section 13050.
12. The discharge shall remain within the designated disposal area at all times.

B. General Reporting Requirements:

1. In the event the discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the discharger shall notify the Board by telephone at **(916) 464-3291**
[Note: Current phone numbers for all three Regional Board offices may be found on the Central Valley Waterboards' website (http://www.waterboards.ca.gov/centralvalley/about_us/contact_us/)]
as soon as it or its agents.

Waste Discharge to Land

have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing within **two weeks**. The written notification shall state the nature, time and cause of noncompliance, and shall include a timetable for corrective actions.

2. The discharger shall have a plan for preventing and controlling accidental discharges, and for minimizing the effect of such events.

This plan shall:

- a. Identify the possible sources of accidental loss or leakage of wastes from each waste management, treatment, or disposal facility.
- b. Evaluate the effectiveness of present waste management/treatment units and operational procedures, and identify needed changes of contingency plans.
- c. Predict the effectiveness of the proposed changes in waste management/treatment facilities and procedures and provide an implementation schedule containing interim and final dates when changes will be implemented.

The Board, after review of the plan, may establish conditions that it deems necessary to control leakages and minimize their effects.

3. All reports shall be signed by persons identified below:
 - a. For a corporation: by a principal executive officer of at least the level of senior vice-president.
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor.
 - c. For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected or appointed official.
 - d. A duly authorized representative of a person designated in 3a, 3b or 3c of this requirement if;
 - (1) the authorization is made in writing by a person described in 3a, 3b or 3c of this provision;
 - (2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a waste management unit, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - (3) the written authorization is submitted to the Board

Any person signing a document under this Section shall make the following certification:

“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of the those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

4. Technical and monitoring reports specified in this Order are requested pursuant to Section 13267 of the Water Code. Failing to furnish the reports by the specified deadlines and falsifying information in the reports, are misdemeanors that may result in assessment of civil liabilities against the discharger.
5. The discharger shall mail a copy of each monitoring report and any other reports required by this Order to:

California Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670-6114

Note: Current addresses for all three Regional Board offices may be found on the Central Valley Waterboard website (http://www.waterboards.ca.gov/centralvalley/about_us/contact_us) or the current address if the office relocates.

C. Provisions for Monitoring:

1. All analyses shall be made in accordance with the latest edition of: (1) *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA 600 Series) and (2) *Test Methods for Evaluating Solid Waste* (SW 846-latest edition). The test method may be modified subject to application and approval of alternate test procedures under the Code of Federal Regulations (40 CFR 136).
2. Chemical, bacteriological, and bioassay analysis shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Board staff. The Quality Assurance-Quality Control Program must conform to EPA guidelines or to procedures approved by the Board.

Unless otherwise specified, all metals shall be reported as Total Metals.

3. The discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to

Waste Discharge to Land

complete the application for this Order. Records shall be maintained for a minimum of three years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.

Record of monitoring information shall include:

- a. the date, exact place, and time of sampling or measurements,
 - b. the individual(s) who performed the sampling of the measurements,
 - c. the date(s) analyses were performed,
 - d. the individual(s) who performed the analyses,
 - e. the laboratory which performed the analysis,
 - f. the analytical techniques or methods used, and
 - g. the results of such analyses.
4. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated at least yearly to ensure their continued accuracy.
 5. The discharger shall maintain a written sampling program sufficient to assure compliance with the terms of this Order. Anyone performing sampling on behalf of the discharger shall be familiar with the sampling plan.
 6. The discharger shall construct all monitoring wells to meet or exceed the standards stated in the State Department of Water Resources *Bulletin 74-81* and subsequent revisions, and shall comply with the reporting provisions for wells required by Water Code Sections 13750 through 13755.22

D. Standard Conditions for Facilities Subject to California Code of Regulations, Title 23, Division 3, Chapter 15 (Chapter 15)

1. All classified waste management units shall be designed under the direct supervision of a California registered civil engineer or a California certified engineering geologist. Designs shall include a Construction Quality Assurance Plan, the purpose of which is to:
 - a. demonstrate that the waste management unit has been constructed according to the specifications and plans as approved by the Board.
 - b. provide quality control on the materials and construction practices used to construct the waste management unit and prevent the use of inferior products and/or materials which do not meet the approved design plans or specifications.
2. Prior to the discharge of waste to any classified waste management unit, a California registered civil engineer or a California certified engineering geologist must certify that the waste management unit meets the construction or prescriptive standards and performance goals in Chapter 15, unless an engineered alternative has been approved by the Board. In the case of an engineered alternative, the registered civil engineer or a certified engineering geologist must

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certify that the waste management unit has been constructed in accordance with Board-approved plans and specifications.

3. Materials used to construct liners shall have appropriate physical and chemical properties to ensure containment of discharged wastes over the operating life, closure, and post-closure maintenance period of the waste management units.
4. Closure of each waste management unit shall be performed under the direct supervision of a California registered civil engineer or a California certified engineering geologist.

E. Conditions Applicable to Discharge Facilities Exempted from Chapter 15 Under Section 2511

1. If the discharger's wastewater treatment plant is publicly owned or regulated by the Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to California Code of Regulations, Title 23, Division 4, Chapter 14.
2. By-pass (the intentional diversion of waste streams from any portion of a treatment facility, except diversions designed to meet variable effluent limits) is prohibited. The Board may take enforcement action against the discharger for by-pass unless:
 - a. (1) By-pass was unavoidable to prevent loss of life, personal injury, or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a by-pass. Severe property damage does not mean economic loss caused by delays in production); and
 - (2) There were no feasible alternatives to by-pass, such as the use of auxiliary treatment facilities or retention of untreated waste. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a by-pass that would otherwise occur during normal periods of equipment downtime or preventive maintenance; or
 - b. (1) by-pass is required for essential maintenance to assure efficient operation; and
 - (2) neither effluent nor receiving water limitations are exceeded; and
 - (3) the discharger notifies the Board ten days in advance.

The permittee shall submit notice of an unanticipated by-pass as required in paragraph B.1. above.

3. A discharger that wishes to establish the affirmative defense of an upset (see definition in E.6 below) in an action brought for noncompliance shall demonstrate, through properly signed, contemporaneous operating logs, or other evidence, that:

- a. an upset occurred and the cause(s) can be identified;
- b. the permitted facility was being properly operated at the time of the upset;
- c. the discharger submitted notice of the upset as required in paragraph B.1. above; and
- d. the discharger complied with any remedial measures required by waste discharge requirements.

In any enforcement proceeding, the discharger seeking to establish the occurrence of an upset has the burden of proof.

4. A discharger whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the discharger shall notify the Board by **31 January**.
5. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to disposal. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.
6. Definitions
 - a. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper action.
 - b. The monthly average discharge is the total discharge by volume during a calendar month divided by the number of days in the month that the facility was discharging. This number is to be reported in gallons per day or million gallons per day.

Where less than daily sampling is required by this Order, the monthly average shall be determined by the summation of all the measured discharges by the number of days during the month when the measurements were made.
 - c. The monthly average concentration is the arithmetic mean of measurements made during the month.
 - d. The "daily maximum" **discharge** is the total discharge by volume during any day.

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- e. The “daily maximum” **concentration** is the highest measurement made on any single discrete sample or composite sample.
- f. A “grab” sample is any sample collected in less than 15 minutes.
- g. Unless otherwise specified, a composite sample is a combination of individual samples collected over the specified sampling period;
 - (1) at equal time intervals, with a maximum interval of one hour
 - (2) at varying time intervals (average interval one hour or less) so that each sample represents an equal portion of the cumulative flow.

The duration of the sampling period shall be specified in the Monitoring and Reporting Program. The method of compositing shall be reported with the results.

7. Annual Pretreatment Report Requirements:

Applies to dischargers required to have a Pretreatment Program as stated in waste discharge requirements.)

The annual report shall be submitted **by 28 February** and include, but not be limited to, the following items:

- a. A summary of analytical results from representative, flow-proportioned, 24-hour composite sampling of the influent and effluent for those pollutants EPA has identified under Section 307(a) of the Clean Water Act which are known or suspected to be discharged by industrial users.

The discharger is not required to sample and analyze for asbestos until EPA promulgates an applicable analytical technique under 40 CFR (Code of Federal Regulations) Part 136. Sludge shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent sampling analysis. The sludge analyzed shall be a composite sample of a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period. Wastewater and sludge sampling and analysis shall be performed at least annually. The discharger shall also provide any influent, effluent or sludge monitoring data for nonpriority pollutants which may be causing or contributing to Interference, Pass Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR Part 136 and amendments thereto.

- b. A discussion of Upset, Interference, or Pass Through incidents, if any, at the treatment plant which the discharger knows or suspects were caused by industrial users of the system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of the industrial user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any

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additional limitations, or changes to existing requirements, may be necessary to prevent Pass Through, Interference, or noncompliance with sludge disposal requirements.

- c. The cumulative number of industrial users that the discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.
- d. An updated list of the discharger's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The discharger shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to federal categorical standards by specifying which set(s) of standards are applicable. The list shall indicate which categorical industries, or specific pollutants from each industry, are subject to local limitations that are more stringent than the federal categorical standards. The discharger shall also list the noncategorical industrial users that are subject only to local discharge limitations. The discharger shall characterize the compliance status through the year of record of each industrial user by employing the following descriptions:
 - (1) Complied with baseline monitoring report requirements (where applicable);
 - (2) Consistently achieved compliance;
 - (3) Inconsistently achieved compliance;
 - (4) Significantly violated applicable pretreatment requirements as defined by 40 CFR 403.8(f)(2)(vii);
 - (5) Complied with schedule to achieve compliance (include the date final compliance is required);
 - (6) Did not achieve compliance and not on a compliance schedule;
 - (7) Compliance status unknown.

A report describing the compliance status of any industrial user characterized by the descriptions in items (d)(3) through (d)(7) above shall be **submitted quarterly from the annual report date** to EPA and the Board. The report shall identify the specific compliance status of each such industrial user. This quarterly reporting requirement shall commence upon issuance of this Order.

- e. A summary of the inspection and sampling activities conducted by the discharger during the past year to gather information and data regarding the industrial users. The summary shall include but not be limited to, a tabulation of categories of dischargers that were inspected and sampled; how many and how often; and incidents of noncompliance detected.

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- f. A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of the industrial users affected by the following actions:
- (1) Warning letters or notices of violation regarding the industrial user's apparent noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the apparent violation concerned the federal categorical standards or local discharge limitations;
 - (2) Administrative Orders regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations;
 - (3) Civil actions regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations;
 - (4) Criminal actions regarding the industrial user's noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
 - (5) Assessment of monetary penalties. For each industrial user identify the amount of the penalties;
 - (6) Restriction of flow to the treatment plant; or
 - (7) Disconnection from discharge to the treatment plant.
- g. A description of any significant changes in operating the pretreatment program which differ from the discharger's approved Pretreatment Program, including, but not limited to, changes concerning: the program's administrative structure; local industrial discharge limitations; monitoring program or monitoring frequencies; legal authority of enforcement policy; funding mechanisms; resource requirements; and staffing levels.
- h. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.
- i. A summary of public participation activities to involve and inform the public.
- j. A description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.

Duplicate signed copies of these reports shall be submitted to the Board and:

Regional Administrator
U.S. Environmental Protection Agency W-5
75 Hawthorne Street
San Francisco, CA 94105

and

State Water Resource Control Board
Division of Water Quality
P.O. Box 100
Sacramento, CA 95812

Revised January 2004 to update addresses and phone numbers

INFORMATION SHEET

WASTE DISCHARGE REQUIREMENTS ORDER R5-2020-0021
JAHANT WOOD CELLARS, L.P.
LANGE TWINS FAMILY WINERY AND VINEYARDS
SAN JOAQUIN COUNTY

Facility Description

The Lange Twins Family Winery and Vineyards is owned and operated by Jahant Wood Cellars, L.P. (Discharger) and consists of a winery and land application areas (LAAs). The winery processed between 20,000 and 30,000 tons of grapes between 2015 and 2019. The grape harvest and crush season typically occur over a 120-day period, between August and November. Bottling may occur at any time throughout the year.

WDRs Order R5-2006-0088, adopted by the Central Valley Water Board on 4 August 2006, prescribes the requirements for the discharge. Order R5-2006-0088 allows a monthly average wastewater flow of up to 60,000 gallons per day (gpd). The Discharger is changing their LAAs and potentially adding additional wastewater ponds. Therefore, Order R5-2006-0088 will be rescinded and replaced with this Order.

Process Wastewater

Process wastewater is generated from wine processing activities, which include process/equipment cleaning, wash down operations, and bottling. The wastewater treatment system consists of a lift station, headworks, screens, pH adjustments, Advanced Integrated Pond System (AIPS) ponds (Ponds C and D), an effluent pond, and LAAs.

Wastewater is pumped out of the lift station which is automatically activated according to the water level. Wastewater is then directed to the first part of the headworks area through a screen that removes solids. The second part of the headworks is the pH adjustment area. The last part of the headworks is the flow meter, which measures the flow entering the beginning of the AIPS (Pond C). Wastewater from Pond C is discharged to Pond D and then to an effluent pond. All ponds are double lined with leak detection systems. The wastewater is then directed to the LAAs and used for irrigation.

Wastewater will no longer be discharged to the LAAs permitted under Order R5-2006-0088. The Discharger has purchased a neighboring parcel consisting of 65.1 acres, of which 55.5 acres will be cropped and irrigated with process wastewater. The new LAAs will be cropped and irrigation with process wastewater. Based on the water balance included in the 2019 Report of Waste Discharge, submitted by the Discharger on 9 October 2019, the volume of wastewater to be discharged is insufficient for crop demand. Supplemental irrigation will be required and supplied by an on-site agricultural well.

Solids generated at the facility are land applied and used as a soil amendment.

Average daily flow rates measured between 2017 and 2019 ranged from 24,541 gallons per day (gpd) to 64,510 gpd.

The facility may construct two additional wastewater ponds (Ponds A and B) if odors in the existing ponds becomes a nuisance. Both ponds will be double lined with leak detection systems.

Site-Specific Conditions

The site topography is relatively flat. Surface water in the area drains via sheet flow south toward Jahant Slough, which is located along the southern boundary of the property. Average annual rainfall for the Acampo area is 14.06 inches per year (in/year); the 100-year return annual total rainfall is 33.36 in/year; evapotranspiration rate for the Lodi area is 65.15 in/year. The neighboring land uses include vineyards that are commercially harvested.

Groundwater Conditions

The existing groundwater monitoring well network consists of three groundwater monitoring wells (MW-1 to MW-3) installed in 2006. Depths to groundwater in these wells, as of May 2019, ranges from approximately 50 to 55 feet below ground surface (bgs).

Concentration trends for total dissolved solids (TDS), nitrate as nitrogen, sodium, chloride, and iron show stable concentrations over time, except for nitrate as nitrogen in MW-2 (downgradient well). Concentration trends for nitrate in MW-2 show increasing trends. However, average concentrations of nitrate as nitrogen in upgradient well MW-1 are higher than concentrations in downgradient well MW-2.

Legal Effect of Rescission of Prior WDRs or Orders on Existing Violations

The Board's rescission of prior waste discharge requirements and/or monitoring and reporting orders does not extinguish any violations that may have occurred during the time those waste discharge requirements or orders were in effect. The Central Valley Water Board reserves the right to take enforcement actions to address violations of prior prohibitions, limitations, specifications, requirements, or provisions of rescinded waste discharge requirements or orders as allowed by law.

Monitoring and Reporting Program

The Monitoring and Reporting Program is designed to verify compliance with effluent limitations and operational requirements of the WDRs.

**ATTACHMENT
REQUIREMENTS FOR MONITORING WELL INSTALLATION WORKPLANS AND
MONITORING WELL INSTALLATION REPORTS**

Prior to installation of groundwater monitoring wells, the Discharger shall submit a workplan containing, at a minimum, the information listed in Section 1, below. Wells may be installed after staff approves the workplan. Upon installation of the monitoring wells, the Discharger shall submit a well installation report which includes the information contained in Section 2, below. All workplans and reports must be prepared under the direction of, and signed by, a registered geologist or civil engineer licensed by the State of California.

**SECTION 1 - Monitoring Well Installation Workplan and
Groundwater Sampling and Analysis Plan**

The monitoring well installation workplan shall contain the following minimum information:

A. General Information:

- Purpose of the well installation project
- Brief description of local geologic and hydrogeologic conditions
- Proposed monitoring well locations and rationale for well locations
- Topographic map showing facility location, roads, and surface water bodies
- Large scaled site map showing all existing on-site wells, proposed wells, surface drainage courses, surface water bodies, buildings, waste handling facilities, utilities, and major physical and man-made features

B. Drilling Details:

- On-site supervision of drilling and well installation activities
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Soil sampling intervals (if appropriate) and logging methods

C. Monitoring Well Design (in narrative and/or graphic form):

Diagram of proposed well construction details

- Borehole diameter
- Casing and screen material, diameter, and centralizer spacing (if needed)
- Type of well caps (bottom cap either screw on or secured with stainless steel screws)
- Anticipated depth of well, length of well casing, and length and position of perforated interval
- Thickness, position and composition of surface seal, sanitary seal, and sand pack
- Anticipated screen slot size and filter pack

D. Well Development (not to be performed until at least 48 hours after sanitary seal placement):

- Method of development to be used (i.e., surge, bail, pump, etc.)
- Parameters to be monitored during development and record keeping technique

- Method of determining when development is complete
- Disposal of development water

E. Well Survey (precision of vertical survey data shall be at least 0.01 foot):

- Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey
- Datum for survey measurements
- List well features to be surveyed (i.e. top of casing, horizontal and vertical coordinates, etc.)

F. Schedule for Completion of Work

G. Appendix: Groundwater Sampling and Analysis Plan (SAP)

The Groundwater SAP shall be included as an appendix to the workplan, and shall be utilized as a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities.

Provide a detailed written description of standard operating procedures for the following:

- Equipment to be used during sampling
- Equipment decontamination procedures
- Water level measurement procedures
- Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged)
- Monitoring and record keeping during water level measurement and well purging (include copies of record keeping logs to be used)
- Purge water disposal
- Analytical methods and required reporting limits
- Sample containers and preservatives
- Sampling
 - o General sampling techniques
 - o Record keeping during sampling (include copies of record keeping logs to be used)
 - o QA/QC samples
- Chain of Custody
- Sample handling and transport

SECTION 2 - Monitoring Well Installation Report

The monitoring well installation report must provide the information listed below. In addition, the report must also clearly identify, describe, and justify any deviations from the approved workplan.

A. General Information:

- Purpose of the well installation project
- Brief description of local geologic and hydrogeologic conditions encountered during installation of the wells
- Number of monitoring wells installed and copies of County Well Construction Permits
- Topographic map showing facility location, roads, surface water bodies

- Scaled site map showing all previously existing wells, newly installed wells, surface water bodies, buildings, waste handling facilities, utilities, and other major physical and man-made features.

B. Drilling Details (in narrative and/or graphic form):

- On-site supervision of drilling and well installation activities
- Drilling contractor and driller's name
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Soil sampling intervals and logging methods
- Well boring log (including the following):
 - o Well boring number and date drilled
 - o Borehole diameter and total depth
 - o Total depth of open hole (same as total depth drilled if no caving or back-grouting occurs)
 - o Depth to first encountered groundwater and stabilized groundwater depth
 - o Detailed description of soils encountered, using the Unified Soil Classification System

C. Well Construction Details (in narrative and/or graphic form).

- Well construction diagram, including:
 - o Monitoring well number and date constructed
 - o Casing and screen material, diameter, and centralizer spacing (if needed)
 - o Length of well casing, and length and position of perforated interval
 - o Thickness, position and composition of surface seal, sanitary seal, and sand pack
 - o Type of well caps (bottom cap either screw on or secured with stainless steel screws)

E. Well Development:

- Date(s) and method of development
- How well development completion was determined
- Volume of water purged from well and method of development water disposal
- Field notes from well development should be included in report

F. Well Survey (survey the top rim of the well casing with the cap removed):

- Identify the coordinate system and datum for survey measurements
- Describe the measuring points (i.e. ground surface, top of casing, etc.)
- Present the well survey report data in a table
- Include the Registered Engineer or Licensed Surveyor's report and field notes in appendix.