

MEMORANDUM



Date: June 26, 2023

To: Mr. Guillaume Fabre
Clos Solène Winery

From: Greg Hulburd, PE
Wallace Group

Subject: Water Use Evaluation for Clos Solène Winery Expansion

Wallace Group has been retained to estimate the water demand for the proposed winery and visitor relocation of existing operations to new and expanded facilities at Clos Solène Winery located at 2040 Niderer Road, Paso Robles CA (APN 040-041-008). The subject property is located outside of the Paso Robles Groundwater Basin.

The proposed winery improvements include the following:

- Phase 1:
 - Wine cave (19,101 sf)
 - Includes winery production and members only areas
 - Outdoor covered working and mechanical area (3,505 sf)
 - Winery production increase from 5,000 cases/year to 10,000 cases/year
 - Driveway and parking improvements
 - New septic system
 - Two 10,000-gallon water tanks
 - Native landscaping: 10,260 sf
 - Vineyard: Removal of 2.25 acres of vineyard
- Phase 2:
 - Administrative building (Bldg. #1; 2,384 sf)
 - Restroom building (Bldg. #2; 430 sf)
 - Tasting room building with covered patio (Bldg. #1,392 sf)
 - Shade trellis and breezeway (436 sf)

An annotated site plan showing phase 1-2 improvements can be found in Attachment A. No special event program is proposed as part of the project. Winemaker activities will include participation in industry-wide event weekends and non-advertised wine club activities.

The existing site has approximately 17 acres of planted vineyards. By project completion, vineyard acreage will total 14.75 acres, a 2.25-acre reduction from existing conditions.

CIVIL AND
TRANSPORTATION
ENGINEERING

CONSTRUCTION
MANAGEMENT

LANDSCAPE
ARCHITECTURE

MECHANICAL
ENGINEERING

PLANNING

PUBLIC WORKS
ADMINISTRATION

SURVEYING /
GIS SOLUTIONS

WATER RESOURCES

WALLACE GROUP
A California Corporation

612 CLARION CT
SAN LUIS OBISPO
CALIFORNIA 93401

T 805 544-4011
F 805 544-4294

www.wallacegroup.us

Water Demands

Water demand increases associated with the proposed project include those associated for:

1. Wine production
 - a. 5,000 cases/year existing → 10,000 cases/year proposed
 - b. Net increase = +5,000 cases/year
2. Employee count
 - a. 6 full time employees existing → 10 full time employees proposed
 - b. Net increase = +4 full time employees
3. Tasting room visitors
 - a. 142 visitors/week existing → 190 visitors/week proposed
 - b. Net increase = +48 visitors/week
4. Winemaker activities
 - a. 840 guests/year → 960 guests/year proposed
 - b. Net increase = +120 guests/year
5. Ornamental landscaping irrigation
 - a. Net increase = +10,260 sf of native landscape

Note, no net change in meals served at winemaker activities is proposed. Under existing and proposed conditions, there are two winemaker dinners planned with a combined total guest count of 120 per year.

A reduction of 2.25 acres of irrigated vineyard to accommodate proposed improvements will lead to a net decrease in water demand associated with the project.

To maximize water conservation, proposed buildings and plumbing improvements will use low-flow fixtures and appliances. In addition, proposed landscaping will be drought tolerant, complying with San Luis Obispo County's Water Efficient Landscape Ordinance, with a projected water duty factor of 1.5 acre-foot/acre-year.

Table 1 outlines the proposed annual water demand for this project at full build-out. Table 2 presents an estimate of reduced water demand associated with proposed vineyard removal. The estimated net change in water demand for the proposed project is presented in Table 3 and shows the project will result in an estimated net reduction in water use ranging from 0.5 to 0.8 acre-feet per year. This net change conservatively assumes the lower estimated value for vineyard irrigation water use reduction. For comparison, Table 4 provides a summary of existing non-vineyard demands based on water factors in the middle of the range indicated in Table 1.



Table 1. Projected Water Demand Estimate

Estimated Increase in Water Use (Water Demand)				
1: Increased Wine Production		Low	High	Units
	Increase in case count per year	5,000	5,000	cases
	Water demand factor per case produced ^a	8.4 ^b	16.7 ^c	gal/case-yr
	Net increased production demand	42,000	83,500	gal/yr
		0.13	0.26	AFY
2: Increased Employee Demand		Low	High	Units
	Increase in full time equivalent (FTE) employee count	4	4	FTE
	Estimated average daily use per employee	10 ^c	20 ^d	gpd/FTE
	Net increased employee demand	14,600	29,200	gal/yr
		0.04	0.09	AFY
3: Increased visitor traffic for tasting room		Low	High	Units
	Increase in tasting room patrons	48	48	patrons/week
	Estimated average use per patron	5 ^c	7	gal/patron/visit
	Net increased tasting room patron demand	12,480	17,472	gal/year
		0.04	0.05	AFY
4: Increased visitor traffic for Non-Advertised Winemaker Activities		Low	High	Units
	Increase in winemaker activity guests	120	120	guests/year
	Estimated average use per guest	5 ^c	7	gal/guest/visit
	Net increased winemaker activity guest demand	600	840	gal/year
		0.0018	0.0026	AFY
5: Increased water use for meals served		Low	High	Units
	Increase in meals served at winemaker activities	0	0	meals
	Estimated average use per meal for restaurant ^e	7	12.9	gal/meal
	Net increased meal demand	0	0	gal/year
		0	0	AFY
6: New ornamental landscaping		Low	High	Units
	MWELo Estimate ^f	115,444	140,265	gal/year
	Total increased demand in acre-ft per year (AFY)	0.35	0.43	AFY
	Total Increase in Water Demand:	0.57	0.83	AFY



Table 2. Estimated Water Demand Reductions

Proposed Water Use Reduction			
7: Vineyard Removal	Low	High	Units
Area Removed	2.25	2.25	AC
Vineyard irrigation Demand Factor	0.6 ^g	1.25 ^h	AFY/AC
Net decrease in vineyard irrigation demand	1.35	2.81	AFY
Total Reduction in Water Demand:	1.35	2.81	AFY

Table 3. Estimated Net Change in Annual Water Use

	Low	High	Units
NET CHANGE IN ANNUAL WATER USEⁱ:	-0.8	-0.5	AFY

Table 4. Existing Non-Vineyard Water Use

Existing Water Demand (not including vineyard irrigation)			
1: Existing Wine Production		Average	Units
Approved case count per year		5,000	cases
Water Demand Factor		12.0	gal/case
Existing demand		60,000	gal/yr
		0.18	AFY
2: Existing Employee Demand			
Full time equivalent (FTE) employee count		6	FTE
Estimated average daily use per employee		15	gpd/FTE
Existing employee demand		32,850	gal/yr
		0.101	AFY
3: Existing visitor traffic for tasting room			
Weekly tasting room patrons		142	patrons/week
Estimated average use per patron		6	gal/patron/visit
Net increased tasting room patron demand		44,304	gal/yr
		0.136	AFY



4: Existing Non-Advertised Winemaker Activities		Average	Units
	Winemaker activity guests	840	guests/year
	Estimated average use per guest	6	gal/guest/visit
	Net increased winemaker activity guest demand	5,040	gal/yr
		0.015	AFY
5: Permitted pool water use (16' x 36')			
	Open pool area exposed to evaporation	576	sq ft
	CIMIS station evaporation ^j	5.21	feet/year
	Permitted pool demand	22,447	gal/yr
		0.069	AFY
6: Existing ornamental landscaping			
	Intermittent irrigation of olive trees, ornamentals (no irrigated turf)	40,000	gal/yr
	Total increased demand in acre-ft per year (AFY)	0.123	AFY
	Total Existing Water Demand (not including vineyard):	0.63	AFY

Notes:

^a Typical winery production demand factor is 10 gal/case-year.

^b 2021 Beverage Industry Environmental Roundtable (BIER) Benchmarking Study average water use for winery production.

^c Napa County, 2015. Water Availability Analysis Guidance Document, May.

^d From California Plumbing Code Appendix H assuming water demand approximately equal to wastewater flow rates for restaurant employees.

^e 2003, Pacific Institute, *Waste Not, Want Not, The Potential For Urban Water Conservation in California*, Appendix E, *Commercial Water Use and Potential Savings*.

^f Madrone Landscapes Irrigation Plan, Sheet L-2.0 Dated 9/12/2022; High is equivalent to MAWA; Low is equivalent to ETWU.

^g Based on driller's water use estimate cited in Cleath Harris *Hydrogeology and Groundwater Information* memorandum dated March 21, 2023.

^h SLO County Offsite Agricultural Offset Clearance Table 3 (max).

ⁱ To produce a conservative estimate of net change in annual water demand, the lower reduction in water demand from reduced vineyard irrigation was assumed (i.e., reductions were limited to 1.3 AFY) .

^j Conservative given that actual evaporation averages 70% of reference evapotranspiration (ET_o).

AC = acres

AFY = acre-feet per year

FTE = full-time employee

gal = gallon

MWELO = Model Water Efficient Landscape Ordinance

Water Supply

The proposed project will utilize an existing on-site groundwater well to meet the water demand. The well is located east of the existing winery building and residence and is capable of supplying water for the proposed project. Refer to the Cleath-Harris technical memorandum for additional details regarding this well.

Water Reuse

Wastewater from the wine production will be collected and treated onsite and beneficially applied to the vineyard under regulation by the State Water Resources Control Board's Winery General Order. Treated effluent will be reused for supplemental irrigation water. Based on full buildout processing water demand of 0.26 AFY (using the low water demand factor per case produced; 0.13 existing + 0.13 AFY proposed), we assume 80 percent, or 0.21 AFY, is available for reuse. The potential reduction in water demand attributable to treated process wastewater reuse is not included in the water demand reductions listed in Table 2. In practice, the water beneficially reused would count toward further reduction in water demand.