

MEMORANDUM
Patrimony Winery
Winery Water Services – 1629-0002



Date: August 12th, 2022
To: Daniel Daou
From: Louis Lefebvre, P.E.
Subject: Patrimony Winery Water Demand Analysis

CIVIL AND
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WATER RESOURCES

Wallace Group has been retained to assist with the water management strategies for the proposed Patrimony Winery improvements project in Paso Robles, CA located at 4270 Adelaida Road, APN 026-233-003. This memo summarizes the anticipated water demand for the proposed project and existing site facilities. The total water demand expected for the site is **4.27 AFY**.

The proposed project includes winery production facilities, hospitality facilities and an 8-unit Bed & Breakfast Inn. The project also proposes a valet structure, gate house, and ornamental landscaping. The table below summarizes the square footages of the project's facilities.

BUILDING AREA	
INTERIOR AREAS	
BLDG. A - Gatehouse	151 SF
BLDG. B - Winery & Hospitality Building	14,866 SF
BLDG. C - Cave	11,380 SF
BLDG. D - Barrel Storage Building Level 1	3,525 SF
BLDG. D - Barrel Storage Building Level 2	3,400 SF
BLDG. E - Single Casita (616 SF x6)	3,696 SF
BLDG. E - Suite Casita (761 SF x2)	1,522 SF
BLDG. F - Valet Structure	128 SF
TOTAL INTERIOR AREA	38,668 SF
EXTERIOR AREAS	
BLDG. B - Winery & Hospitality Building	14,273 SF
BLDG. C - Cave - Private Tasting Patio	548 SF
BLDG. D - Barrel Storage Building Work Area	1,559 SF
BLDG. E - Single Casita (229 SF x6)	1,374 SF
BLDG. E - Suite Casita (302 SF x2)	604 SF
BLDG. F - Valet	44 SF
TOTAL EXTERIOR AREA	18,402 SF
TOTAL BUILDING AREA	57,070 SF

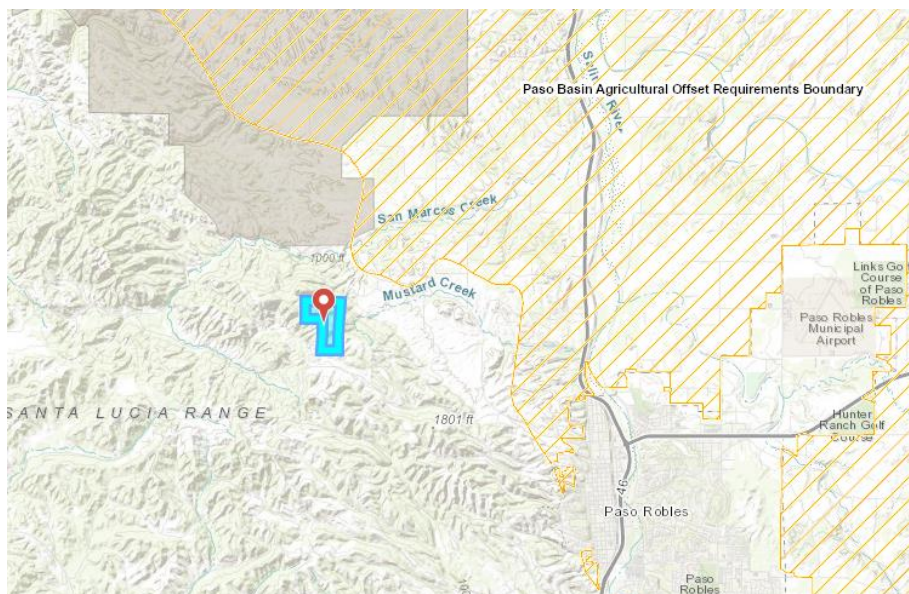
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As shown in the figure below the winery is located outside of the Paso Robles Groundwater Basin therefore water demand offset measures are required.



Annual wine production for the project is expected to be 15,000 cases per year.

Standard domestic water usages for employees, visitors, suites, and wine production were used. Two persons are assumed to occupy each of the 8 bed and breakfast units as well as the caretaker's unit.

It is assumed that domestic wastewater generated by the project will be managed by a conventional septic tank and leachfield system. A standard portion, 80%, of the domestic water demand will be conveyed to the septic system. The portion of water conveyed to the septic system recharges the groundwater via the leachfield. The volume of recharge via leachfield, is subtracted from the gross total domestic water demand to yield the net total domestic water demand. Similarly, it is anticipated that the winery process wastewater will be recycled at a rate of 80% of the gross wine production water demand and will be recycled for beneficial reuse thereby offsetting other non-potable water demand (eg. irrigation, frost protection). Landscape water demand was also accounted for and is based on preliminary MWELO calculations provided by the project's landscape architect.

The following is a break down of the proposed increase in water demand in acre-feet per year (AFY), for details see Attachments A and B.

Total Ag Demand = 0.46 AFY

Total New Non-Ag Demand = 3.81 AFY

Total Project Water Demand = 4.27 AFY

Attachment A



New Agricultural Water Demand				
Wine Cases				
Facility Description	Cases per Year	Gallons of Water per Wine Case	-	Annual Water Use (AFY)
Wine Cases	15,000	10	-	0.46
Total AFY				0.46
Total Agricultural Demand (AFY)				0.46

*County of SLO LNG-2009 Form, Table 3: Existing Crop-Specific Applied Water by Crop Type

Domestic Water Demand					
Employees					
Employee Count	Average Working Days	Gallons of Water per Day per Employee	-	-	Annual Water Use (AFY)
15	361	10	-	-	0.17
Total AFY					0.17
Visitor					
Visitor Count	Visiting Days per Year	Gallons of Water per Day per Visitor	-	-	Annual Water Use (AFY)
150	365	5	-	-	0.84
Total AFY					0.84
Suites					
Suite Count	Visiting Days per Year	Gallons of Water per Day per Person	People per Suite	% Occupancy	Annual Water Use (AFY)
8	365	40	2	70	0.50
Total AFY					0.50
Ornamental Landscape					
Landscape Type	Gallons of Water per Year	-	-	-	Annual Water Use (AFY)
Regular Landscape	1,263,092	-	-	-	3.88
Landscape water demand offset from process water recycling and domestic wastewater recharge via leachfield					1.57
Total AFY					2.30
Total Domestic Demand (AFY)					3.81

Attachment B

Water Efficient Landscape Work sheet

Reference Evapotranspiration (ETO): 49.2

Project: Patrimony, 4270 Adelaida Road, Paso Robles, CA 93446

Hydrozone # /Planting Description a	Plant Factor (PF)	Irrigation Method b	Irrigation Efficiency (IE)c	ETAF (PF/IE)	Landscape Area (sq, ft.)	ETAF x Area	Estimated Total Water Use (ETWU) e
Regular Landscape Areas							
Very Low	0.1	drip	0.81	0.12	-	-	-
Low	0.25	drip	0.81	0.31	80,496.00	24,844.44	757,854.93
Medium	0.5	drip	0.81	0.62	26,832.00	16,562.96	505,236.62
High	0.8	drip	0.81	0.99	-	-	-
Non-Irrigated	0.0	n/a	100	0.00	-	-	-
				Totals	107,328.00	41,407.41	1,263,091.56
Special Landscape Areas							
Turf				1		-	-
						-	-
						-	-
						-	-
						-	-
				Totals	-	-	-
						ETWU Total	1,263,091.56
Maximum Allowed Water Allowance (MAWA)e							1,473,269.99

a
Hydrozone #/Planting Description
 E.g
 1.) front lawn

b
Irrigation Method
 overhead spray
 or drip

c
Irrigation Efficiency
 0.75 for spray head
 0.81 for drip

d
ETWU (Annual Gallons Required)
 = Eto x 0.62 x ETAF x Area
 where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

e
MAWA (Annual Gallons Allowed)
 = (Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]
 where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations:

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area (B+D)	41,407.41
Total Area (A+C)	107,328.00
Sitewide ETAF (B+D) ÷ (A+C)	0.39

Regular

Total ETAF x Area (B)	41,407.41
Total Area (A)	107,328.00
Average ETAF (B ÷ A)	0.39