

# MEMORANDUM



**Date:** September 2, 2021

**To:** Craig Stoller,  
Chalk Knoll Vineyards LLC, DBA Paris Valley Road Estate Winery

**From:** Rob Miller, PE  
Wallace Group

**Subject:** Water Use Evaluation for Paris Valley Road Winery Expansion

Wallace Group previously prepared a Water Use Evaluation for the above referenced project on March 23, 2020. The purpose of this memo is to describe refinements in the calculations and transmit update water demands. Key changes are described below:

1. General categorization: Each item of water use has now been categorized as “Ag” or “Non-Ag” in the water use summary for ease of future calculation.
2. Spirits production: Gross water demand for this item remains the same as the previous effort. The owner is intending to recycle all process wastewater, and therefore 80% of the return flows are now noted, and the net water demand is reported.
3. Increased employee demand: The previous report included both existing and future employees, for a total buildout staff of 40 persons. The attached update reflects only the 20 new employees associated with the project, consistent with the overall project description. The new employees are also categorized by ag and non-ag for future reference. The owner intends to return all indoor water use to the groundwater basin via the septic leach field, and therefore 80% of the return flows are now noted, and the net water demand is reported.
4. Increased visitor traffic: Visitor related gross water demands remain the same as the previous effort. No return flow credits are taken for general events, since it is not known if all sanitary flows will be managed via leach field. Restaurant related flows will be returned to the groundwater basin via the septic leach field, and therefore 80% of the return flows are now noted, and the net water demand is reported.
5. Bed and breakfast: Gross water demands remain the same as the previous effort. The owner intends to return all indoor water use to the groundwater basin via the septic leach field, and therefore 80% of the return flows are now noted, and the net water demand is reported.

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6. Pool demands: The evaporation estimate and gross water demand remain the same as the previous effort.
7. Ornamental landscape: Water use estimates have been updated for the latest ornamental landscape plan.
8. Water reduction and efficiency projects: The reduction projects have been updated to reflect the actual lawn area removed in the current landscape plan and a more accurate estimate of the removed irrigation reservoir.

The attached calculation provide detail on each of the above-referenced items. The net water demands are summarized as follows:

Ag-related net increased water demand: 0.377 acre feet per year

Non-ag related net increased water demand: 3.742 acre feet per year

Reduced demand from efficiency projects: 11.050 acre feet per year

In summary, we anticipate a net overall reduction in water use of 6.931 acre feet per year, which is calculating by subtracting the increase in demand of 4.119 AFY from the anticipated reduction of 11.050 AFY. Please let me know if you have any questions, or if you need more information.

## Water Offset Calculations

### Paris Valley Road Winery, Paso Robles, CA

August 27, 2021

#### Estimated increase in water use subject to offset

##### Ag Use 1: Increased Spirits Production

Increase in cases per year (assuming 3.75 gallons/case water demand)	1,000
Total increased demand in acre-ft per year (AFY)	0.012 AFY
Percentage recycled for vineyard irrigation	80%
Total net increased demand in acre-ft per year (AFY)	0.002 AFY

##### Ag Use 2: Increased Employee Demand (employee allowance for additional visitor services, distillery)

Increase in full time equivalent (FTE) employee count	15 FTE
Estimated average daily use per employee	10 gpd/employee
Percentage discharged to subsurface recharge via leach system	80%
Total net employee demand (after accounting for recharge)	10,950 gallons per year
Net increased demand in acre-ft per year (AFY)	0.034 AFY

##### Ag Use 3: Increased visitor traffic for events and restaurant

Increased event population assuming 40 events/year x 300 guests/event	12,000 patrons
Estimated average use per patron for events	5 gal/patron/visit
Total event attendee demand (no credit taken for leach field discharge)	60,000 gallons per year
Increased visitor population for restaurant (assuming 100 guests/day on average)	36,500 patrons
Estimated average use per patron for restaurant	7 gal/patron/visit
Percentage discharged to subsurface recharge via leach system	80%
Total net restaurant demand (after accounting for recharge)	51,100 gallons per year
Total increased demand in acre-ft per year (AFY)	0.341 AFY

##### Total of all new agricultural uses (1 through 3 above)

0.377 AFY

##### Non-Ag Use 1: New Bed and Breakfast (8 rooms, assuming 70% occupancy, 2 occupants per room)

Estimated daily water use per occupant	38 gal/occupant/day
Annual population based on 2 occupants per room, 70% occupancy	4,088 occupants per year
Percentage discharged to subsurface recharge via leach system	80%
Total net B&B demand (after accounting for recharge)	31,069 gallons per year
Total increased demand in acre-ft per year (AFY)	0.095 AFY

##### Non-Ag Use 2: Increased Employee Demand (employee allowance for additional visitor services)

Increase in full time equivalent (FTE) employee count	5 FTE
Estimated average daily use per employee	10 gpd/employee
Percentage discharged to subsurface recharge via leach system	80%
Total net employee demand (after accounting for recharge)	3,650 gallons per year
Total increased demand in acre-ft per year (AFY)	0.011 AFY

##### Non-Ag Use 3: New Pool

New Pool	1,800 sf
Domestic water demand= annual evaporation <sup>1</sup> (5.21 ft/yr)	5.21 ft/year
Total annual increase due to new pool	70,152 gallons per year
Total increased demand in acre-ft per year (AFY)	0.215 AFY

##### Non-Ag Use 4: New Ornamental Vines in Project Area

New Vines in Project Area	0.98 acre
Water Demand = 1.5 acre-ft/year-acre	1.50 acre-ft/year-acre
Total annual increase due to new vines in project area	479,001 gallons per year
Total increased demand in acre-ft per year (AFY)	1.470 AFY

**Non-Ag Use 5: New ornamental landscaping**

New lawn area - not applicable, planting area was previously lawn	0 sq ft
Annual water use factor for turf	2.50 ft/year
New ornamental plantings (estimated)	56,628 sq ft
Annual water use factor for drip/ornamental	1.50 ft/year
Total annual increase due to new landscaping	635,366 gallons per year
Total increased demand in acre-ft per year (AFY)	<b>1.950 AFY</b>

**Total of all new non-agricultural uses**

**3.742 AFY**

**Proposed water reduction and efficiency projects**

1 Removal of Lawn Area (2.25 acres removed x 2.5 acre-ft/year-acre)	5.63 AFY
2 Removal of Irrigation Reservoir (4,250 sf x 5.21 ft/year)	0.51 AFY
3 New Stormwater Capture System (256,166 sf x 12.54 in/year)	4.92 AFY

**Total 11.05 AFY**

