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Water Availability Analysis & Technical,  
Financial & Managerial Worksheet

**WATER AVAILABILITY ANALYSIS FOR  
SCARLETT WINERY  
1052 PONTI ROAD, NAPA COUNTY, CA  
APN 030-280-010**

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As required by Napa County Planning, Building and Environmental Services (PBES), this analysis evaluates the availability of groundwater for a potential winery and tasting room located on the Napa Valley floor at the subject parcel located at 1052 Ponti Road, Napa, CA 94558.

**PROJECT DESCRIPTION**

The 47.88± acre parcel is currently developed with a residence, guest house, irrigation/frost protection pond, miscellaneous structures associated with vineyard operations and 38.0± acres of vineyard.

It is our understanding that the project proposes to construct a tasting room and a full crush winery on the above referenced parcel with the intent of the facility having the capability of producing 30,000 gallons of wine per year. Along with the proposed wine production at the site, the project proposes a moderate staffing and marketing plan. The project proposes six (6) full-time employees, three (3) part-time employees and two (2) seasonal (harvest) employees. The project also proposes to offer private tour and tasting appointments for a maximum number of 15 guests per day and 64 guests per week. Furthermore, the Applicant plans to offer one (1) food and wine pairing lunch event per month for parties up to 10 persons and one (1) food and wine pairing dinner event per month for parties up to 10 persons. Additionally, the Applicant intends to host one (1) wine club release event per year for groups of up to 100 persons, with up to five (5) additional event staff, and one (1) wine club release event per year for groups of up to 200 persons, with up to ten (10) additional event staff. One (1) 125 person large event with five (5) additional event staff per year is also being proposed at the winery.

**EXHIBITS**

A USGS site map showing the site and approximate property line locations is included in the application package. Information regarding the location of existing wells and structures for the subject parcel is shown on the Use Permit Drawings and "Neighboring Well Location Map" prepared by Bartelt Engineering also included in the application package and attached, respectively.

**GROUNDWATER OVERVIEW**

According to the Napa County Watershed Information & Conservation Council (WICC), the subject parcel is primarily located in the St. Helena Groundwater Subarea of Napa County. The Napa County Groundwater Monitoring Program tested wells in this area in 2014 and 2015. The observed groundwater depth in these wells ranged from 44 feet to 240 feet below ground surface. Ground elevations range from 90 feet to 150 feet, mean sea level. The groundwater availability in this subarea is reported to be stable and as the well for this project is on the valley floor, a recharge analysis will not be conducted at this time.

**WATER USE CRITERIA**

The subject parcel is located in the Agricultural Preserve (AP) Zoning District in the Napa Valley sub-watershed area of the Mouth of Napa River watershed. Per the PBES Water Availability Analysis (WAA) Guidance Document dated May 12, 2015 the water use criteria for a parcel located on the Napa Valley Floor and non-groundwater deficient area without any well or spring interference must follow Tier 1 requirements.

**Estimated Water Use**

The total water demand for the existing and proposed uses for the project is calculated below based on the *Guidelines for Estimating Residential and Non-residential Water Use* from the WAA Guidance Document (2015):

<b>TABLE 1A: EXISTING WATER DEMAND</b>	
<b>Description</b>	<b>Estimated Water Usage</b>
Primary Residence	0.75 acre-feet/year
Secondary Residence (Guest House)	0.30 acre-feet/year
Vineyard (irrigation only on 38.0 ± acres of vineyard)	19.00 acre-feet/year
Vineyard (frost protection on 38.0 ± acres of vineyard)	9.50 acre-feet/year
Total Existing Water Demand =	29.55 acre-feet/year

<b>TABLE 1B: PROPOSED WATER DEMAND</b>	
<b>Description</b>	<b>Estimated Water Usage</b>
Primary Residence	0.75 acre-feet/year
Secondary Residence (Guest House)	0.30 acre-feet/year
Winery ( 30,000 gallons annually)	
Process Water (2.15 acre-feet per 100,000 gallons of wine)	0.65 acre-feet/year
Domestic and Landscaping (0.5 acre-feet per 100,000 gallons of wine)	0.15 acre-feet/year
Employees ( 3,477 shifts annually, 15 gallons per shift)	0.17 acre-feet/year
Tasting Room Visitation ( 3,328 visitors annually, 3 gallons per visitor)	0.04 acre-feet/year
Events and Marketing, with on-site catering ( 685 visitors & event staff annually, 15 gallons per visitor/event staff)	0.04 acre-feet/year
Vineyard (irrigation only on 36.4 ± acres of vineyard) <sup>1</sup>	18.20 acre-feet/year
Vineyard (frost protection on 36.4 ± acres of vineyard)	9.10 acre-feet/year
Total Proposed Water Demand =	29.40 acre-feet/year

<sup>1</sup> Approximately 2± acres of vineyard will be removed with 0.4± acres replanted resulting in 1.6± loss (net)

As shown in the above tables, the water demand is estimated to decrease as a result of the proposed project. The greatest water demand for the proposed project results from vineyard irrigation.

### **Allowable Water Allotment<sup>2</sup>**

The following calculation assumes that 47.17± acres of the total 47.88± acres of the parcel lies in an area designated as “Napa Valley Floor” while the remaining 0.71± acres of the parcel lies in an area designated as “All Other Areas”. The 0.71± acres lies in an area physically separated from the rest of the parcel by Silverado Trail and is effectively disconnected from the proposed project. Therefore, not including this area in the parcel’s Allowable Water Allotment analysis means the calculation is conservative.

1.0 acre-feet/acre of water is allotted for parcels located on the Napa Valley Floor areas.

Allowable water allotment = 47.17± acres x 1.0 acre-feet/year = 47.17± acre-feet/year

The above analysis shows that the projected water usage will be **less than** the allowable water allotment for the subject parcel.

### **SOURCE WATER INFORMATION**

According to Napa County records there is one (1) well onsite serving the existing residence and guest house (Well #1) and one (1) well used for vineyard irrigation (Well #2). Well #2 is capable of producing a flow rate in excess of 400 gallons per minute<sup>3</sup> (gpm). Well #1 will be transitioned to satisfy only the residential landscaping demand while Well #2 will be transitioned to satisfy all of the parcel’s remaining water demands, including residential, winery tasting room and production domestic water demands, fire protection demands, vineyard irrigation and frost protection demands and winery landscape demands.

### **Well Description**

Well #2 complies with State regulations for a Water System and will be used to satisfy domestic and production post-development demand requirements. Under proposed conditions, ground water will be pumped from the existing well into onsite storage tanks and then supplied to the vineyard, residence, guest house, tasting room and production facility. The tanks will allow stored water to be distributed as appropriate.

### **Water System Classification**

Although the proposed project serves less than five (5) connections, serves less than 25 yearlong residents<sup>4</sup> and does not serve 25 people per day at least 60 days per year, a commercial kitchen is proposed. Therefore, under PBES guidelines Scarlett Winery may be required to operate and maintain a regulated transient non-community water system

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<sup>2</sup> Calculation based on the Napa County WAA Policy for water usage.

<sup>3</sup> State of California Well Completion Report No. e0132012 signed July 8, 2011 for work completed on July 8, 2011. Performed by Huckfeldt Well Drilling, Inc (License #439-746).

<sup>4</sup> Yearlong resident is considered an individual served by the water system for 183 or more days annually and does not include seasonal employees.

(TNCWS) as a result of the proposed Use Permit Application. A transient non-community water system is identified as a system that has less than five (5) connections, serves less than 25 yearlong residents<sup>5</sup>, serves 25 people per day at least 60 days per year and serves not more than 25 of the same people at least six (6) months out of the year. The two (2) seasonal employees are not considered yearlong residents.

#### **SUMMARY AND CONCLUSION**

The estimated water demand for parcel associated with the proposed Scarlett Winery Use Permit Application is projected to be less than the allowable water allotment in accordance with the Napa County Water Availability Policy.

#### **ATTACHMENTS**

Neighboring Well Location Map

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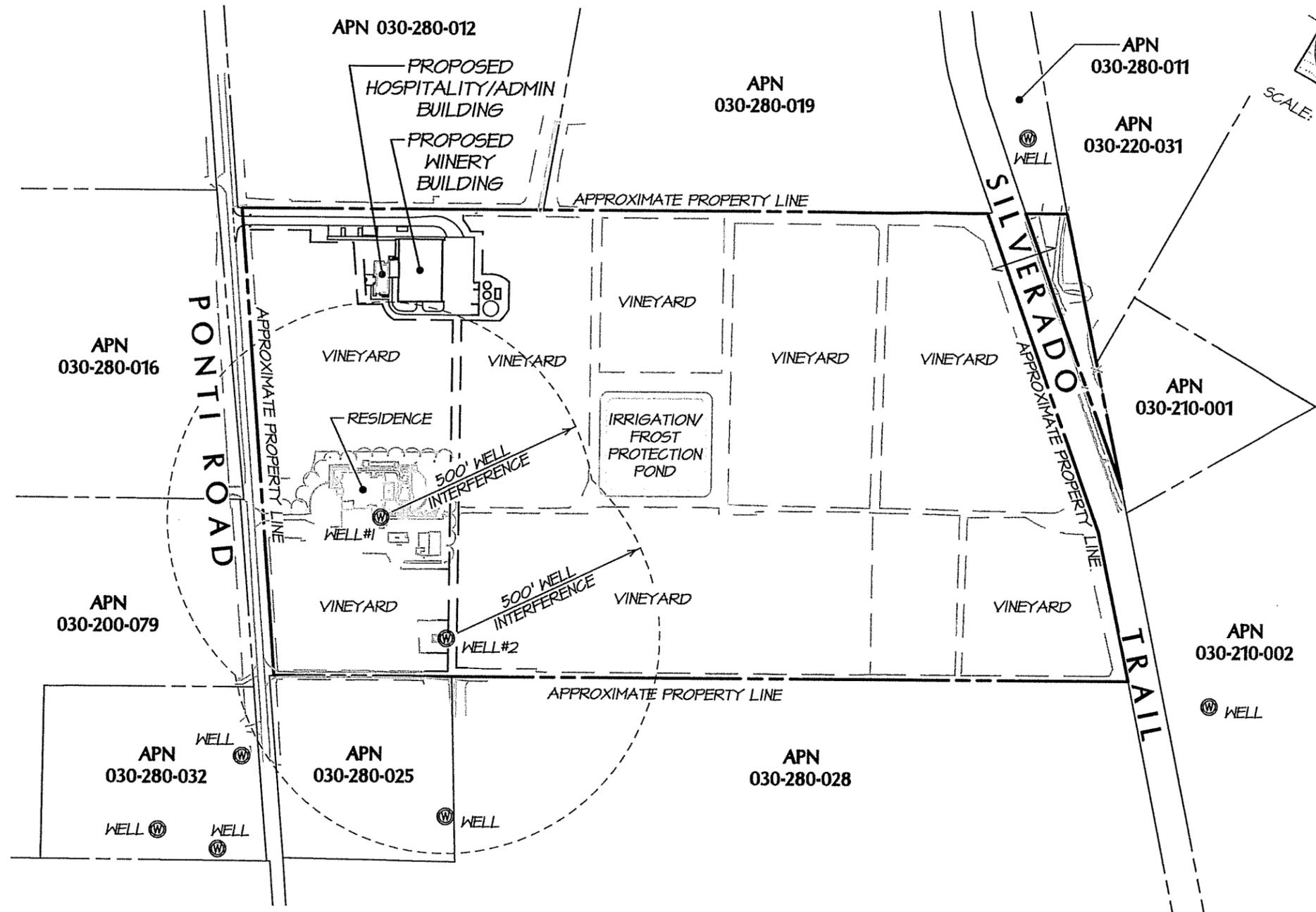
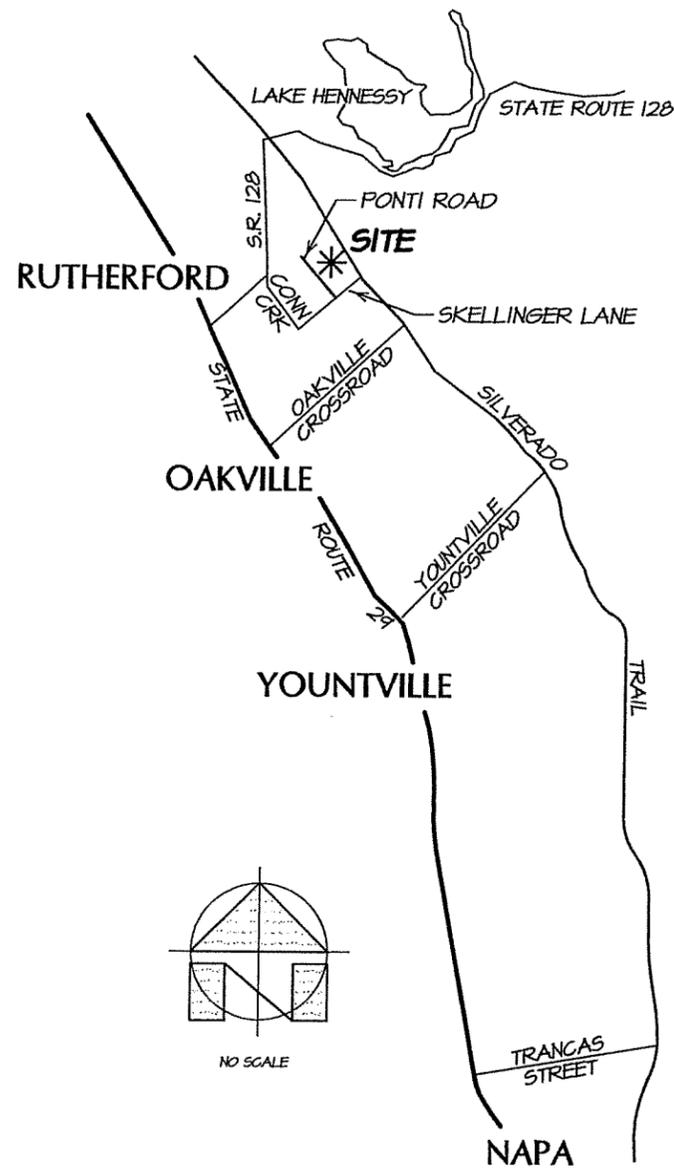
<sup>5</sup> Yearlong resident is considered an individual served by the water system for 183 or more days annually.

**REFERENCES**

Napa County . "Water Availability (WAA) - Design, Construction and Guidance Document." May 12, 2015.

Napa County Watershed Information & Conservation Council (WICC). n.d.

1/30/2018 - 9:27 AM, Kelly J. Kelly, S. LAND PROJECTS 2015-2017 N5021015 USE PERMIT ACAD EXHIBITS N5021 WELL DMS



**NOTES:**  
1. PROPERTY LINES WERE TAKEN FROM THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM MAPS.

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Scarlett Winery  
1052 Ponti Road  
Napa County, CA  
APN 030-280-010  
Job No. 15-02  
January 2018 - Revised  
Sheet 1 of 1

**TECHNICAL, MANAGERIAL AND FINANCIAL CAPACITY WORKSHEET FOR  
SCARLETT WINERY  
1052 PONTI ROAD, NAPA COUNTY, CA  
APN 030-280-010**

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As required by Napa County Planning, Building and Environmental Services (PBES), the following Technical, Managerial and Financial (TMF) Capacity Worksheet outlines the potential requirements associated with a proposed public water system serving the subject parcel located at 1052 Ponti Road, Napa, CA 94558.

**PROJECT DESCRIPTION**

The 47.88± acre parcel is currently developed with a residence, guest house, irrigation/frost protection pond, miscellaneous structures associated with vineyard operations and 38.0± acres of vineyard.

It is our understanding that the project proposes to construct a hospitality/administration building and a full crush winery on the above referenced parcel with the intent of the facility having the capability of producing 30,000 gallons of wine per year. Along with the proposed wine production at the site, the project proposes a moderate staffing and marketing plan. The project proposes six (6) full-time employees, three (3) part-time employees and two (2) seasonal (harvest) employees. The project also proposes to offer private tour and tasting appointments for a maximum number of 15 guests per day and 64 guests per week. Furthermore, the Applicant plans to offer one (1) food and wine pairing lunch event per month for parties up to 10 persons and one (1) food and wine pairing dinner event per month for parties up to 10 persons. Additionally, the Applicant intends to host one (1) wine club release event per year for groups of up to 100 persons, with up to five (5) additional event staff, and one (1) wine club release event per year for groups of up to 200 persons, with up to ten (10) additional event staff. One (1) 125 person large event with five (5) additional event staff per year is also being proposed at the winery.

Although the proposed project serves less than five (5) connections, serves less than 25 yearlong residents<sup>1</sup> and does not serve 25 people per day at least 60 days per year, a commercial kitchen is proposed. Therefore, under PBES guidelines Scarlett Winery may be required to operate and maintain a regulated transient non-community water system (TNCWS). The following TMF Capacity Worksheet describes the water source, management and financial aspects for the proposed public water system.

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<sup>1</sup> Yearlong resident is considered an individual served by the water system for 183 or more days annually and does not include seasonal employees.

**WATER SYSTEM OVERVIEW**

<b>TABLE 1: WATER SYSTEM OVERVIEW</b>	
Water System Name	Scarlett Winery
Location/Address	1052 Ponti Road, Napa, CA 94558 APN 030-280-010
Application Type	New System
Water System ID	XX-XXXX (to be assigned)
Water System Classification	Transient Non-community (TNC)
Name of Person(s) Who Prepared The Report	Michael G. Grimes, P.E. Project Engineer Bartelt Engineering
Water Source	Well

**TECHNICAL CAPACITY**

**System Description**

According to Napa County records there is one (1) well onsite serving the existing residence and guest house (Well #1) and one (1) well used for vineyard irrigation (Well #2). Well #2 is capable of producing a flow rate in excess of 400 gallons per minute<sup>2</sup> (gpm).

Under proposed conditions Well #1 will be transitioned to satisfy only the residential landscaping demand while Well #2 will be transitioned to satisfy all of the parcel's remaining water demands, including residential, winery hospitality/administration building and production domestic water demands, fire protection demands, vineyard irrigation and frost protection demands and winery landscape demands. The existing residence and guest house have a combined four (4) bedrooms and currently have two (2) residents total. The proposed public water system will be isolated utilizing a backflow prevention device or double check valve to separate treated domestic water from untreated irrigation water and fire protection water.

It is anticipated that the water service connections will be at the winery buildings, the residence and guest house that are located on the above referenced parcel. The water treatment equipment will most likely include micron filters, calcite filter, water softener, storage tanks, booster pumps, pressure tanks and ultraviolet disinfection. Treatment and disinfection equipment requirements may vary based on water quality testing. Final design and layout of the water system will be included in the public water system permit application and the forthcoming improvement plans.

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<sup>2</sup> State of California Well Completion Report No. e0132012 signed July 8, 2011 for work completed on July 8, 2011. Performed by Huckfeldt Well Drilling, Inc (License #439-746).

## **One Year Projection**

Based on the proposed number of employees, marketing events, production, irrigation and the existing residence and guest house bedrooms and irrigation the average annual water demand is estimated to be 2,216 gallons per day resulting in approximately 808,948 gallons per year. Based on the Well Completion Report<sup>3</sup> (Permit #E11-00219), the estimated water yield from the existing groundwater well (Well #2) is 400 gallons per minute; therefore, the proposed water system should have adequate capacity to meet projected domestic water demands. Refer to the Water Availability Analysis for Scarlett Winery, prepared by Bartelt Engineering for additional information on estimated production and domestic water demands.

The projected water system service area, water demand and the number of users are expected to remain constant over the next several years with no future plan for expansion.

## **SOURCE ADEQUACY**

### Groundwater

Well #2 was constructed with a 64 foot annular seal which exceeds the minimum standards for a community water system and therefore can be utilized as the public water system source.

### Surface Water Treatment

The water system source water will be a groundwater well; therefore, no surface water treatment is anticipated or required.

### Water Supply Capacity

It is anticipated that any required non-community water system will be able to supply the minimum three (3) gallons per minute for at least 24 hours for each service connection. It is anticipated that the water system may contain three (3) separate water service connections. To assist in offsetting peak water demand periods, adequate storage will be provided prior to use.

### Water Quality

Groundwater sample results from the existing groundwater wells were not available at the time this report was prepared. Any results of samples taken from the existing wells for the purpose of a non-community water system will be forwarded to Napa County PBES and included as part of the public water system permit application.

### Consolidation with Other Water Systems

The closest large scale municipal water system is operated by the Town of Yountville. The system is not within the vicinity of the proposed water system for the Scarlett Winery project. It is infeasible to consolidate with any existing water systems at this time. If

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<sup>3</sup> State of California Well Completion Report No. e0132012 signed July 8, 2011 for work completed on July 8, 2011. Performed by Huckfeldt Well Drilling, Inc (License #439-746).

municipal water service becomes available in the future, it is anticipated that the onsite well will continue to be utilized for wine production and any municipal water service would be utilized for domestic purposes. There is no anticipated consolidation with other (existing) water systems near the site.

## **MANAGERIAL**

### Organizational Ability

The Owner of the water system is primarily responsible for the review and overseeing of all winery financial and business decisions to ensure financial stability of the winery, in addition to allocating appropriate staffing levels and assigning responsibilities to ensure continuous water system quality. The water system will be primarily managed by the winery Facilities Manager. The Facilities Manager is responsible for managing the day-to-day operations of the winery including periodic inspection of the water system and will obtain sufficient training to inspect, operate and maintain the water system equipment within specified parameters to meet state water quality standards; in addition, the Facilities Manager will also take groundwater samples as necessary and submit the samples to a local laboratory for testing. If necessary, the Facilities Manager and any other employees working with the water system will attend classes in water distribution systems for certification at Solano Community College (or other suitable school) and will maintain a working knowledge of changes in codes and requirements associated with the water system. The Facilities Manager will obtain support from a Certified Operator if it becomes necessary to make modifications to the water system. Approximately five percent (5%) of the Facilities Manager's time will be dedicated to inspecting, monitoring and quality sampling of the water system.

The Facilities Manager will typically perform visual inspections, routine operation and maintenance of the well head, storage and pressure tanks, booster pumps, pressure gauges, meters and valves checking for signs of leaks or damage, proper operation, maintain lubricant levels, eliminate potential electrical or chemical hazards, clean storage tanks, etc.; in addition, to bacteriological and chemical monitoring and reporting.

### Water Rights

Well #2 is located on the parcel associated with the proposed winery (APN 030-280-010).

## **FINANCIAL:**

The water system will generate no revenue of its own. The water system expenses are covered as part of the general fund for winery operations. Most of the capital expenditures over a 20 year period will be minor. Annual maintenance and repair will be accomplished by onsite winery personnel, assisted by a private contractor (such as Oakville Pump or North Coast Water Works) and will be covered in the winery general fund. The expenses associated with water testing will also be covered as part of the winery general fund. Tests will be conducted by a private testing company (such as CalTest or Brelje and Race Laboratory).

General item costs associated with the water system are estimated as follows:

Onsite water system personnel:	Approximately 20 hrs/month or \$800 per month.
Contractors (as needed):	Average \$500 per month.
Sampling and testing:	\$300 per quarter, or \$1,200 per year
Total Operating Costs:	Approximately \$2,000 per month or \$24,000 annually (increasing by an estimated 5% annually); Average 20 years: \$4,000 per month or \$46,000 annually

It is estimated that the total operating and installation costs associated with the water system for the first year will be approximately \$50,000 including employee allocated time, training, facilities and maintenance.

### **CONCLUSION**

The water system for the proposed project is anticipated to be regulated by the State of California and Napa County PBES. Following approval of the Use Permit, the Applicant understands that all permit requirements for the public water system will be submitted prior to issuance of any building permits associated with the proposed development.