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Public Water System Feasibility Report

Hourglass Winery Use Permit Major Modification (P19-00102-MOD),
Viewshed (P23-00278-VIEW), Exception to Con. Regs. (P23-00279-
UP), and Exception to the Road and Street Standards
Planning Commission Hearing Date February 4, 2026

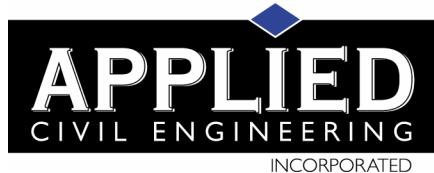
TRANSIENT NON-COMMUNITY WATER SYSTEM INFORMATION

FOR
HOURGLASS WINERY

LOCATED AT:
701 Lommel Road
Calistoga, CA 94515
Napa County APN 018-060-024

PREPARED FOR:
Hourglass Winery
Care Of: Jeff Smith
1104 Adams Street, Suite 103
St. Helena, CA 94574

PREPARED BY:



2160 Jefferson Street, Suite 230
Napa, CA 94559
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Job Number: 19-129



Michael R. Muelrath

Michael R. Muelrath R.C.E. 67435

2/3/2023

Date

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INTRODUCTION

Hourglass Winery is applying for a Use Permit Modification to modify the entitlements for their existing winery located northeast of Silverado Trail between Lommel Road and Dutch Henry Canyon Road in Napa County, California. The subject property is also known as Napa County Assessor's Parcel Number 018-060-024.

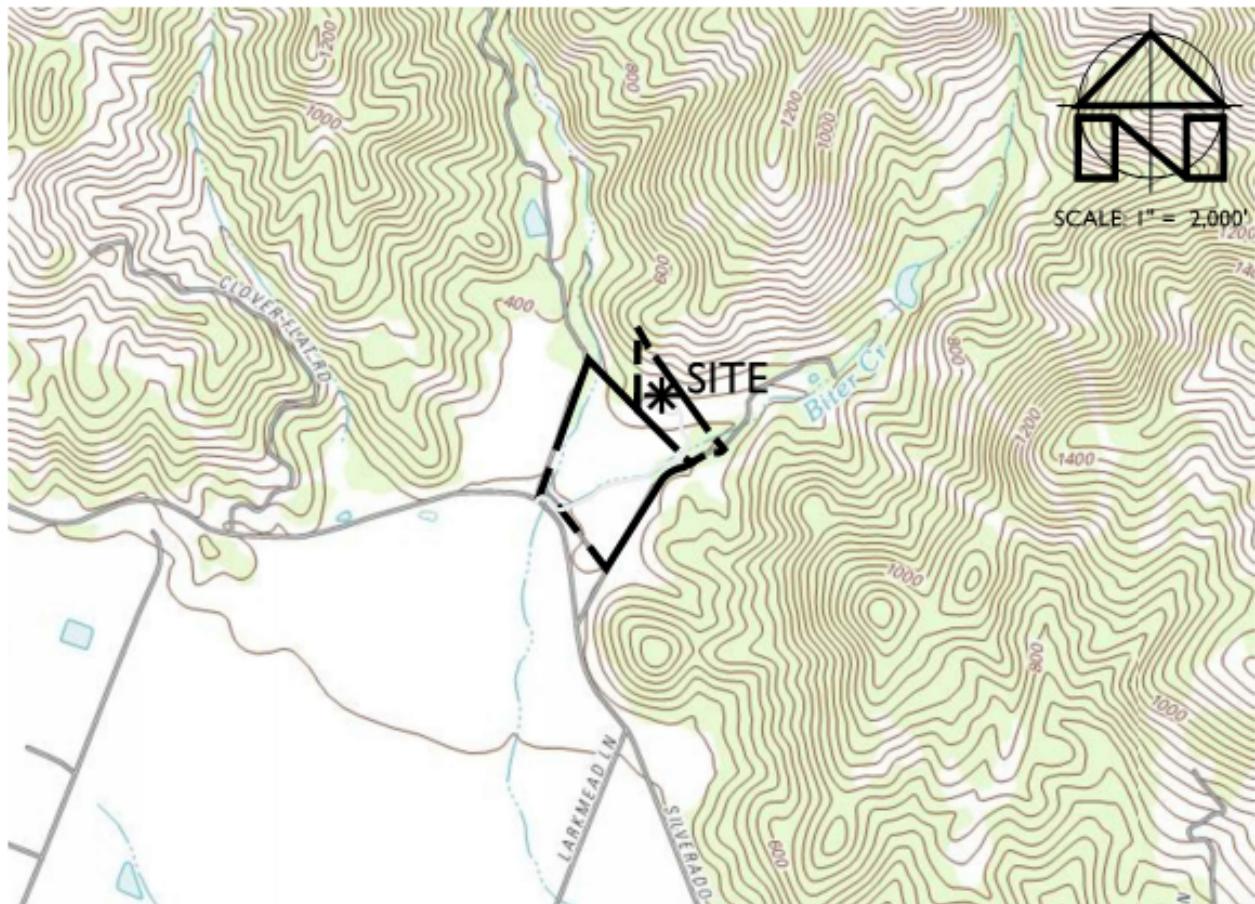


Figure 1: Location Map

- The Use Permit Modification application under consideration proposes the following Wine Production:
 - 60,000 gallons of wine per year
 - Crushing, fermenting, aging and bottling
- Employees:
 - 10 full-time employees
 - 2 part-time employees

- Marketing Plan:
 - Daily Tours and Tastings by Appointment
 - 20 visitors per day maximum
 - Food prepared offsite by catering company
 - Private Marketing Events – Type 1
 - 30 guests maximum
 - 54 events per year
 - Food prepared offsite by catering company
 - Private Marketing Events – Type 2
 - 100 guests maximum
 - 12 events per year
 - Food prepared onsite or by offsite catering company
 - Portable toilets used for all events with more than 30 guests
 - Private Marketing Events – Type 3
 - 250 guests maximum
 - 3 events per year
 - Food prepared offsite by catering company
 - Portable toilets used for all events with more than 30 guests
 - Private Marketing Events – Type 4
 - 500 guests maximum
 - 1 event per year
 - Food prepared offsite by catering company
 - Portable toilets used for all events with more than 30 guests

Existing improvements on the property include the winery and agricultural buildings, vineyards, caves and the related access and utility infrastructure. A new hospitality building and cave expansion is proposed as part of the Use Permit Modification. Please see the Hourglass Winery Site Plan Exhibit by Albion Surveys for approximate locations of existing and proposed facilities.

Groundwater is currently used for the existing winery facility and vineyard irrigation and will continue to be used for those purposes in the future.

Since the number of employees plus the number of visitors is expected to exceed 24 for 60 or more days out of the year the project will be required to implement a Transient Non-Community Public Water System.

Hourglass Winery has requested that Applied Civil Engineering Incorporated (ACE) prepare a brief report outlining the anticipated technical, managerial and financial aspects of the water system that will be required to serve the proposed winery to accompany the winery Use Permit application as required by Napa County.

WATER SYSTEM NAME

The water system will be known as the “Hourglass Winery Water System”.

NAME OF PERSON WHO PREPARED THIS REPORT

This report was prepared by Michael Muelrath, PE of Applied Civil Engineering Incorporated. Information regarding the parameters of the subject Use Permit application was provided by representatives of Hourglass Winery and their Planning Consultant, Jon Webb.

TECHNICAL CAPACITY

System Description

Water for the existing winery and vineyards is currently provided by several existing onsite wells. However, water for the winery public water system will be provided only by Well #5 (Well Completion Report No. 1073626). According to the Well Completion Report this existing well does have the required 50 foot deep, 3 inch wide annular seal as is required for public water systems.

Treatment is expected to consist of standard water treatment technologies and detailed plans for the water treatment system will be prepared and presented to Napa County for review during the building permit and water system permit stage.

Water Demand Projection

Napa County Water Availability Analysis Guidelines were used to estimate the annual water demand for the proposed winery uses and associated landscaping around the new winery. The landscaping and vineyards were included in this analysis even though they have other sources of water available to meet irrigation needs. The total proposed water use is estimated to be approximately 13.5 acre-feet per year. Of the projected 13.5 ac-ft approximately 0.38 acre-feet is associated with domestic uses for the proposed winery and the balance is associated with vineyard and landscape irrigation and winery process water. Using the projected annual domestic water demand of 0.38 acre-feet per year, we have calculated an average daily demand of approximately 339.2 gallons and a maximum daily demand (MDD) of approximately 763 gallons (calculated using a peaking factor of 2.25 per California Waterworks Standards Section 64554b.3.(C)).

Source Adequacy

The existing well was constructed with a 54 foot deep, 3 inch wide cement annular seal to meet the requirements for public water systems. A copy of the Well Completion Report providing information about the existing well will be included with the water system application with the winery building permit application package to document adequacy of the seal.

Water Supply Capacity

Assuming a well pumping cycle of 12 hours per day the new well must be capable of producing at approximately 1.06 gallons per minute to meet the water system's MDD. A pumping test in accordance with California Waterworks Standards Section 64554 was performed by Applied Civil Engineering and Richard Slade and Associates on October 6, 2021. According to the report prepared by Richard Slade and Associates the yield for the well was determined to be at least 3.1 gpm which is significantly more than the required 1.06 gpm needed to meet the MDD. More details regarding the pumping test and recovery in accordance with California Waterworks Standards will be submitted prior to building permit and water system permit submittal to document the actual yield.

Furthermore, the results of the Water Availability Analysis prepared by Richard Slade and Associates confirms that the projected aquifer extraction is less than expected aquifer recharge and therefore long-term supply should be sufficient to meet the needs of the public water system and other irrigation uses.

Once the water system is permitted and constructed we recommend that the water level, yield and drawdown in the well be monitored on an ongoing basis to detect any trends in changing water table levels and well yield so that alternate sources can be developed if needed.

The water system must also include a water storage tank that can store at least the MDD (763 gallons).

Water Quality Characterization

Preliminary testing was completed in January 2021. These results indicate treatment will be required for manganese and arsenic removal. The water treatment system must be designed to reduce all required contaminant levels to below the regulatory maximum contaminant level (MCL) for each constituent, as applicable. Based on preliminary assessment and experience with other wells in the general project area we judge that it will be feasible to provide treatment as needed to meet water quality requirements for the new public water system.

Consolidation Analysis

We have reviewed the California State Water Resources Control Board System Area Boundary Layer (SABL) Look-up Tool and found three systems identified on the map that are located within 3 miles of the subject property:

1. City of Calistoga
2. Tucker Acres Mutual Water Company
3. Cal Fire Sonoma-Lake-Napa Unit HQ
4. Calistoga Farmworker Center

We have reviewed the possibility of connecting to one of these existing systems with the Napa County Local Agency Formation Commission and have determined that it is not feasible to

connect to an existing water system since the property is outside of the existing water system service areas and outside of the sphere of influence of all public water systems in the vicinity of the project area (see correspondence in Appendix 2). Furthermore, extension of infrastructure for long distances that would be required to connect to one of the existing systems is not feasible.

MANAGERIAL

Organization

Management and routine operation of the water system will be performed by the winery staff. One staff member will be responsible for performing sampling, reporting and keeping up to date records onsite in accordance with Napa County requirements. The winery staff person in charge of the water system will consult with water system specialists as needed if issues arise with any components of the water system. The water system manager will report directly to the property owner.

Land Ownership

The well, storage tank and all the piping will all be located on the same property as the proposed winery that it will serve which is owned by Nine Buttons LLC (see ownership documents in Appendix 4) and therefore no easements are necessary.

Water Rights

The Hourglass Winery Water System will use groundwater from a non-adjudicated groundwater basin exclusively and is therefore not subject to water rights through the State Water Resources Control Board.

FINANCIAL

There will be no revenue generated by the water system.

The expected expenses for the water system can be broken down into initial startup cost and ongoing operational cost as shown below.

Startup Cost

Startup cost includes the new water transmission piping, water storage tank, water treatment system equipment, booster pump and installation. The water treatment and storage equipment will be designed based on a full panel of water quality test results that will be performed on water from the existing well. Based on previous experience we estimate that the cost for these components will be approximately \$136,700 (see budget spreadsheet in Appendix 3).

Actual costs will be dependent upon the location of the tank and other water system components as well as results of the water quality testing and design of the water treatment system.

Annual Operating Cost

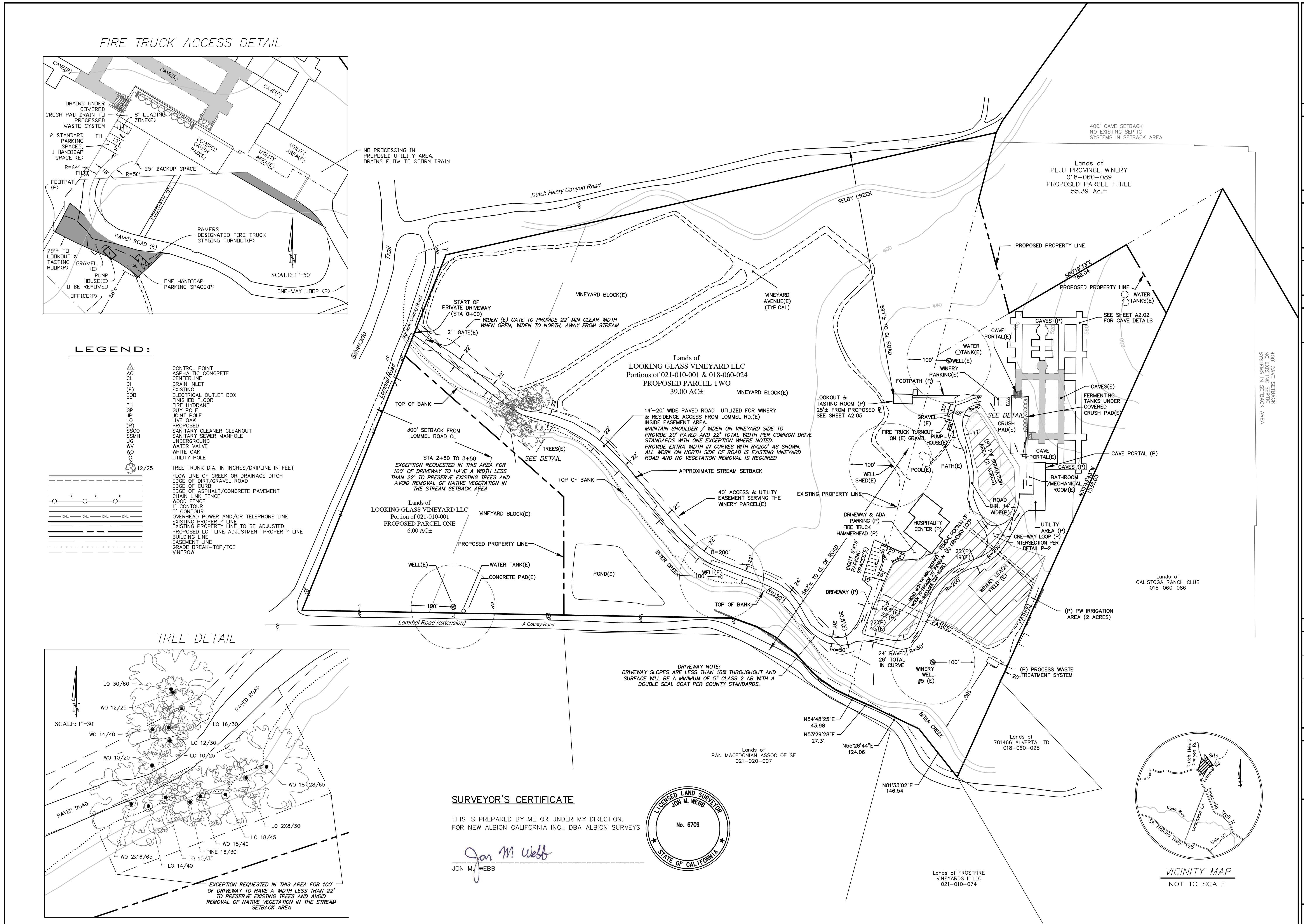
Annual operating cost for the water system will include a portion of one employee's salary, cost for performing quarterly and annual water quality testing, equipment maintenance, replacement of consumable items, electrical service charges, professional fees and capital replacement allowance. The actual cost to operate and maintain the water system will be dependent on the final design of the water system. We estimate that the annual cost associated with operating and maintaining the water system will be approximately \$20,000 per year (see budget spreadsheet in Appendix 3).

Funding

The startup costs have already largely been incurred during construction of the winery. The winery's annual budget must include a line item for water system operation and maintenance expenses to ensure finances are available to operate and maintain the water system throughout the life of the winery.

APPENDIX I: Hourglass Winery Use Permit

Site Plan (Reduced to 8.5" x 11")



APPENDIX 2: Correspondence with LAFCO

Mike Muelrath

From: Freeman, Brendon <bfreeman@napa.lafco.ca.gov>
Sent: Monday, November 21, 2022 11:30 AM
To: Mike Muelrath
Subject: RE: Water Service at Hourglass Winery - 710 Lommel Road, Calistoga

Hi Mike,

All is well here. I hope the same is true for you.

I am confirming the proposed public water system for the Hourglass Winery located at 710 Lommel Road in Napa County, CA (APN 018-060-024) is located outside the jurisdictional boundaries and spheres of influence of all cities and special districts in Napa County that are authorized to provide public water service.

The subject is located approximately 2.6 miles away from the City of Calistoga, which is the nearest public agency that provides water service. Annexation to the City is not possible given the distance between the subject property and the City's sphere of influence.

Under California Government Code Section 56133, the City is prohibited from extending water service to the subject property unless there exists a documented threat to public health or safety involving existing facilities.

With all of this in mind, there are no public water service options available to the subject property at this time. Please let me know if you have any questions.

Have a happy Thanksgiving!

Brendon Freeman, Executive Officer
Local Agency Formation Commission of Napa County
1754 Second Street, Suite C
Napa, California 94559
Office: (707) 259-8645
Mobile: (707) 363-1783
www.napa.lafco.ca.gov



From: Mike Muelrath <mike@appliedcivil.com>
Sent: Monday, November 21, 2022 7:46 AM
To: Freeman, Brendon <bfreeman@napa.lafco.ca.gov>
Subject: Water Service at Hourglass Winery - 710 Lommel Road, Calistoga

[External Email - Use Caution]

Hi Brendon,

Hope all is well!

We are working on a public water system application for the Hourglass Winery located at 710 Lommel Road (APN 018-060-024). As part of the application we need a note from you relative to this properties ability to connect to an existing public water system.

Our research indicates that the property is not within the service area of any public water system and thus connection is not feasible.

I look forward to your response and thoughts on this matter.

Thank you,

Mike Muelrath, P.E.
Principal



2160 Jefferson Street, Suite 230
Napa, CA 94559

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APPENDIX 3: Budgeting Spreadsheets

FIVE YEAR BUDGET PROJECTION (Small Community Water System)

INSTRUCTIONS: Yellow-shaded cells are for data entry; all other cells are locked except line item descriptions which can be changed if needed. Years 2 through 5 will be compounded automatically by the inflation factor in Cell G6.

System Name:

Hourglass Winery Water System

Inflation Factor (%): 3.0

System ID Number: TBD

LINE	EXPENSES AND SOURCE OF FUNDS	2023	2024	2025	2026	2027
1	OPERATIONS AND MAINTENANCE (O&M) EXPENSES					
2	Salaries and Benefits	6,240.00	6,427.20	6,620.02	6,818.62	7,023.17
3	Contract Operation and Maintenance	0.00	0.00	0.00	0.00	0.00
4	Power and Other Utilities	2,500.00	2,575.00	2,652.25	2,731.82	2,813.77
5	Fees Regulatory	674.00	694.22	715.05	736.50	758.59
6	Treatment Chemicals	0.00	0.00	0.00	0.00	0.00
7	Coliform Monitoring	240.00	247.20	254.62	262.25	270.12
8	Chemical Monitoring	50.00	51.50	53.05	54.64	56.28
9	Transportation	0.00	0.00	0.00	0.00	0.00
10	Materials, Supplies, and Parts	500.00	515.00	530.45	546.36	562.75
11	Office Supplies	100.00	103.00	106.09	109.27	112.55
12	Miscellaneous	500.00	515.00	530.45	546.36	562.75
13	Additional O&M for New Project	0.00	0.00	0.00	0.00	0.00
14	Total O&M Expenses:	10,804.00	11,128.12	11,461.96	11,805.82	12,160.00
15						
16	GENERAL AND ADMINISTRATIVE EXPENSES					
17	Engineering and Professional Services	740.00	762.20	785.07	808.62	832.88
18	Depreciation and Amortization	0.00	0.00	0.00	0.00	0.00
19	Insurance	0.00	0.00	0.00	0.00	0.00
20	Existing Contribution to CIP (From CIP J48)	8,039.75	8,039.75	8,039.75	8,039.75	8,039.75
21	O&M Reserve	0.00	0.00	0.00	0.00	0.00
22	Other Reserves	0.00	0.00	0.00	0.00	0.00
23	Miscellaneous	100.00	103.00	106.09	109.27	112.55
24	** New Funding Project Costs	0.00	0.00	0.00	0.00	0.00
25	Additional New Project Contribution to CIP (From CIP J59)	0.00	0.00	0.00	0.00	0.00
26	** Debt Service	0.00	0.00	0.00	0.00	0.00
27	Total General and Administrative Expenses:	8,879.75	8,904.95	8,930.91	8,957.64	8,985.18
28	TOTAL EXPENSES (Line 14+ Line 27):	19,683.75	20,033.07	20,392.87	20,763.46	21,145.17
29						
30	REVENUES RECEIVED					
31	Cash Revenues (Water Rates)	0.00	0.00	0.00	0.00	0.00
32	** Depreciation Reserves	0.00	0.00	0.00	0.00	0.00
33	** Fees and Services	0.00	0.00	0.00	0.00	0.00
34	** Hookup Charges	0.00	0.00	0.00	0.00	0.00
35	** Withdrawal from CIP or Other Reserves	0.00	0.00	0.00	0.00	0.00
36	** Other Fund Sources: Interest, Etc.	0.00	0.00	0.00	0.00	0.00
37	** Grants	0.00	0.00	0.00	0.00	0.00
38	** SRF Loan	0.00	0.00	0.00	0.00	0.00
39	** Business Loans	0.00	0.00	0.00	0.00	0.00
40	TOTAL REVENUE (Lines 31 through 39):	0.00	0.00	0.00	0.00	0.00
41	NET LOSS OR GAIN:	-19,683.75	-20,033.07	-20,392.87	-20,763.46	-21,145.17

Report Prepared by (Name and Title): _____

Date: _____

(** Inflation factor not applied to future year projections)

Number of Customers:
Average Monthly Revenue Needed Per Customer:

2023	2024	2025	2026	2027
1	1	1	1	1

(total expenses + # of customers + 12)

SIMPLIFIED CAPITAL IMPROVEMENT PLAN (CIP)

Date: 2/3/2023

System ID No.: TBD

System Name: Hourglass Winery Water System

Service Connections: 1

MONTHLY
RESERVE

QTY	COMPONENT	UNIT COST	INSTALLED COST	AVG LIFE, YEARS	ANNUAL RESERVE	MONTHLY RESERVE	PER CUSTOMER
1	Drilled Well, 6", steel casing	Depth: 530	80	42400	25	1696.00	141.33
0	Drilled Well, 8", steel casing	Depth: 0	130	0	25	0.00	0.00
0	Drilled Well, 12", steel casing	Depth:	200	0	25	0.00	0.00
1	Wellhead Electrical Controls		700	700	25	28.00	2.33
0	Submersible Pump, 20 HP		9000	0	7	0.00	0.00
0	Submersible Pump, 3 HP		2000	0	7	0.00	0.00
1	Submersible Pump, 5 HP		3500	3500	7	500.00	41.67
1	Booster Pump Station, 10 HP, complete		14000	14000	5	2800.00	233.33
1	Booster Pump Station Electrical Controls		5000	5000	5	1000.00	83.33
0	Pressure Tank	Gallons: 1.5	0	10	0.00	0.00	0.00
1	Pressure Tank	Gallons: 80	1.5	120	10	12.00	1.00
0	Storage Tank, Plastic	Gallons: 5000	0.5	0	10	0.00	0.00
0	Storage Tank, Redwood	Gallons: 1.3	0	40	0.00	0.00	0.00
0	Storage Tank, Redwood	Gallons: 1.3	0	40	0.00	0.00	0.00
0	Storage Tank, Steel	Gallons: 12,445	1.2	0	50	0.00	0.00
0	Storage Tank, Steel	Gallons: 1.2	0	50	0.00	0.00	0.00
0	Storage Tank, Steel	Gallons: 1.2	0	50	0.00	0.00	0.00
1	Storage Tank, Concrete	Gallons: 10000	1.5	15000	80	187.50	15.63
3	Master Meter, 2"		450	1350	10	135.00	11.25
0	Master Meter, 3"		800	0	10	0.00	0.00
0	Master Meter, 4"		2500	0	10	0.00	0.00
0	Hypochlorinator w/ Tank & Pump, Complete		800	0	10	0.00	0.00
0	Pipe w/ sand bedding, 1" (Enter linear feet for quantity)		20	0	50	0.00	0.00
1500	Pipe w/ sand bedding, 2" (Enter linear feet for quantity)		25	37500	50	750.00	62.50
0	Pipe w/ sand bedding, 3" (Enter linear feet for quantity)		30	0	50	0.00	0.00
0	Pipe w/ sand bedding, 4" (Enter linear feet for quantity)		35	0	50	0.00	0.00
0	Pipe w/ sand bedding, 6" (Enter linear feet for quantity)		50	0	50	0.00	0.00
0	Standpipe Hydrant, 1-1/2"		700	0	20	0.00	0.00
0	Standpipe Hydrant, 2-1/2"		900	0	20	0.00	0.00
1	Customer Meter w/ Box & Shutoff, Complete		250	250	20	12.50	1.04
10	Distribution Valve, 2"		150	1500	10	150.00	12.50
0	Distribution Valve, 3"		250	0	10	0.00	0.00
0	Distribution Valve, 4"		600	0	20	0.00	0.00
0	Distribution Valve, 6"		850	0	20	0.00	0.00
1	Air & Vacuum Relief Valve, Typical		375	375	20	18.75	1.56
1	Calcite Filter and Softening		7500	7500	20	375.00	31.25
1	UV		7500	7500	20	375.00	31.25
	OTHER ITEM			0	1	0.00	0.00
	SUBTOTAL Existing CIP Costs			\$136,695.00		\$8,039.75	\$669.98
	NEW Project CIP Costs						
	OTHER ITEM			0	1	0.00	0.00
	OTHER ITEM			0	1	0.00	0.00
	OTHER ITEM			0	1	0.00	0.00
	OTHER ITEM			0	1	0.00	0.00
	OTHER ITEM			0	1	0.00	0.00
	OTHER ITEM			0	1	0.00	0.00
	OTHER ITEM			0	1	0.00	0.00
	SUBTOTAL New Project CIP Costs			\$0.00		\$0.00	\$0.00
	TOTAL Existing and New Project CIP:			\$136,695.00		\$8,039.75	\$669.98

Report Prepared by (Title): _____ Date: _____

NOTE: Installed costs are averages and include all materials and contracted labor and equipment.

NOTES:

APPENDIX 4: Ownership Documents

2006-0027589

RECORDING REQUESTED BY:

Jeffery R. Smith
c/o Lars Johansson, Esq.
Sonnenschein, Nath & Rosenthal, LLP
525 Market Street, 26th Floor
San Francisco, California 94105-2708

WHEN RECORDED RETURN TO:

Jeffery R. Smith
c/o Lars Johansson, Esq.
Sonnenschein, Nath & Rosenthal, LLP
525 Market Street, 26th Floor
San Francisco, California 94105-2708

DOCUMENTARY TRANSFER TAX IS \$ 0.00

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Computed on the consideration or value of property conveyed; OR
 Computed on the consideration or value less liens or
encumbrances remaining at time of sale.
 X Realty not sold: Property transferred without consideration

As declared by the undersigned Grantor
Signature of Declarant or Agent determining tax - Firm Name

GRANT DEED

APN: 018-060-024

The undersigned Grantor(s) declare(s) under penalty of perjury that the following is true and correct:
THERE IS NO CONSIDERATION FOR THIS TRANSFER.

GRANTOR(S): LOOKING GLASS VINEYARD, LLC, a Delaware limited liability corporation,
hereby **GRANT(S)** to 9 BUTTON VINEYARD, LLC, a California limited liability corporation,

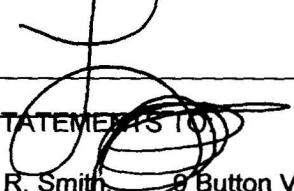
the following described real property in the County of Napa, State of California, described as follows:

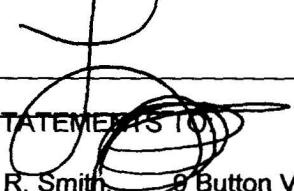
SHOWN ON EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

Dated 8.4.06

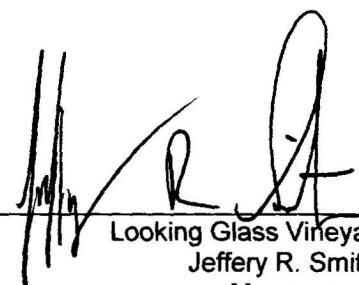
STATE OF CALIFORNIA }
COUNTY OF Napa }
On 8.4.06 before me,
L. Johnson, a notary public
personally appeared Jeffery R. Smith, personally known to me (or
proved to me on the basis of satisfactory evidence) to the person(s)
whose name(s) is/are subscribed to the within instrument and
acknowledged to me that he/she/they executed the same in his/her/their
authorized capacity(ies), and that by his/her/their signature(s) on the
instrument the person(s) or the entity upon behalf of which the person(s)
acted, executed the instrument.

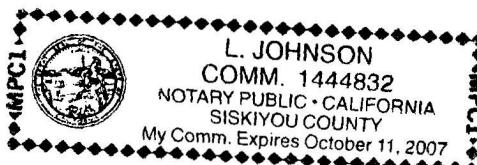
WITNESS my hand and official seal.

Signature 

MAIL TAX STATEMENT TO 

Attn: Jeffery R. Smith, 9 Button Vineyard, LLC, 1104 Adams Street, Suite 103, St. Helena, CA 94571

By: 
Looking Glass Vineyard, LLC
Jeffery R. Smith
Manager



END OF DOCUMENT

EXHIBIT "A"

Description of Parcel APN 018-060-024

All that certain tract of land situate, lying and being in the County of Napa, State of California, particularly described as follows:

All that portion of the tract of land conveyed to Stephen A. McFeely and Madeline E. McFeely by Grant Deed recorded October 30, 1985 in Book 1414 at Page 116 of Official Records of Napa County, California, which lies northeasterly of the easterly line of the Carne Humana Rancho.

End of Description