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Napa County Planning, Building
& Environmental Services

WATER SYSTEM FEASIBILITY STUDY FOR A REGULATED WATER SYSTEM

ANTHEM WINERY NAPA COUNTY, CA

APN 035-470-046

Prepared for:

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Project #4111010.0

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TECHNICAL CAPACITY

System Description

The proposed Anthem Winery is located at 3454 Redwood Road, Napa. An existing well on site will serve the proposed 50,000 gallon per year winery, existing residence and vineyard. The existing annual water usage is estimated to be 4.97 acre-feet (1,620,000 gallons).

There are several wells on the parcel, however only one will provide water to the winery public water system. The other wells will be used for supplementary irrigation and process water. The well to be used for the public water system has a 50-ft annular seal of bentonite. No chemical or biological treatment will be performed on the well water unless quarterly testing results deem further treatment is necessary. Water will be stored in a proposed +/- 10,000 gallon tank. Separate tanks will be installed for firewater and irrigation. Separate pumps will supply the domestic water, irrigation water and fire water. See the Use Permit-Utility Plan, attachment, for system layout.

Projected Water Demand

Based on the calculated annual water demand of 1,570,000 gallons, the daily average demand is 4,300 gallons. Peak daily demand is estimated at 8,600 gallons per day being 200% of average daily demand.

Water Supply Capacity

The existing water source is capable of supporting the proposed peak daily demand of 8,946 - gal/day. A well test demonstrates the well can supply 15-gal/min. Well test results are on file at Napa County.

$$15 \text{ gpm} * 1440 \text{ min/ day} = 21,600 \text{ gal / day} \geq 8,600 \text{ gallons (peak daily demand)}$$

Source Adequacy

The current well has a 50-ft annular seal to comply with Napa County Code 13.12.270 as a Class IB well. The Application and Permit to Construct a Water Well document outlines the well construction and inspection by the Department of Environmental Management. Application and Permit are on file at Napa County. The owner's well number for this well is number 8.

Water Quality

Water sampling will be conducted prior to operation of the system. Water quality is expected to meet or exceed all requirements of Chapter 15 of Title 22, California Code of Regulations (CCR).



MANAGERIAL

General

The owner of the water system will be the property owner of the parcel. The costs of operation will be covered in the winery operation costs. The owner will also hold the responsibility of water system manager for the property.

Operation and Maintenance

The following is a summary of the required Operations and Maintenance schedule:

Tasks	Frequency	Action
System Water Level	Daily	Visual Inspection
System Pressure and Conveyance	Daily	Visual Inspection
Water Tanks	Quarterly	Visual Inspection
Manually Operate Valves and Pumps	Quarterly	Operation
Water Quality Test & Reporting	Quarterly	Unit Samples Taken & Reported to Napa Co.

A certified distribution operator or treatment operator (T1 level or above) as specified by Chapter 13 of Title 22 CCR contracted by the owner will be responsible for system repairs.

Monitoring and Testing

Water quality testing will be conducted to comply with Chapter 15 of Title 22 of CCR. Samples will be taken to Caltest or approved laboratory for testing.

FINANCIAL

Below is a brief summary of the system’s annual estimated financial capacity. Capital improvement costs and installation of the treatment and distribution systems, are estimated to be a one-time expense of \$50,000, amortized over 20 years.

Capital Improvements: \$2,500

Power: \$2,000

Maintenance: \$3,500

Water Quality Testing: \$1,500

Total: \$9,500

Projected Annual Gross Revenue: \$3,500,000 (Based on 5,000 cases at \$700/case)

Annual Operating Costs: \$700,000 (at 20% profit)

Percent of Total Operating Costs: 1%