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Water Availability Analysis

TIER I WATER AVAILABILITY ANALYSIS

FOR THE

TITUS WINERY USE PERMIT MODIFICATION

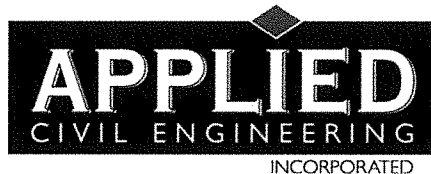
LOCATED AT:

2971 Silverado Trail
St. Helena, CA 94574
NAPA COUNTY APN 021-353-013

PREPARED FOR:

Lee Titus and Sons LTD
Care of: Eric Titus
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1/31/2017

Date

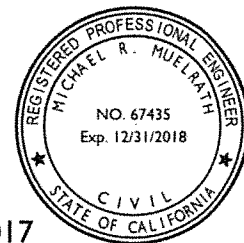


TABLE OF CONTENTS

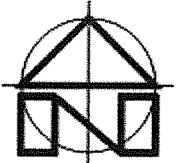
LIST OF APPENDICES.....	iii
INTRODUCTION.....	1
ESTIMATED GROUNDWATER DEMAND.....	3
WATER USE SCREENING CRITERIA.....	3
ANALYSIS.....	4
CONCLUSION.....	5

LIST OF APPENDICES

APPENDIX I: Water Use Estimate Supporting Calculations.....6

INTRODUCTION

Lee Titus and Sons LTD is applying for a Use Permit Modification for their existing winery located at 2971 Silverado Trail in Napa County, California. The subject property, known as Napa County Assessor's Parcel Number 021-353-013, is located along the west side of Silverado Trail approximately 0.25 miles northwest of the Silverado Trail / Deer Park Road intersection.



SCALE: 1" = 2,000'



Figure 1: Location Map

The Use Permit (P13-00367) issued by Napa County on May 7, 2014 for this winery facility allows the construction and operation of a winery with the following characteristics:

- Wine Production:
 - 24,000 gallons of wine per year
 - Crushing, fermenting, aging and bottling

- Employees (based on maximum anticipated staffing level during harvest):
 - 10 full time employees
 - 2 part time employees

- Marketing Plan:
 - Daily Tours and Tastings by Appointment
 - 40 visitors per day maximum
 - 210 visitors per week maximum
 - Promotional Tastings with Meals:
 - 8 per year
 - 25 guests maximum
 - Food prepared in onsite kitchen or catered
 - Wine Club Marketing Events
 - 4 per year
 - 125 guests maximum
 - Food prepared offsite by catering company
 - Portable toilets brought in for guest use
 - Wine Release Events
 - 6 per year
 - 125 guests maximum
 - Food prepared offsite by catering company
 - Portable toilets brought in for guest use
 - Wine Auction Events
 - 2 per year
 - 125 guests maximum
 - Food prepared offsite by catering company
 - Portable toilets brought in for guest use

Existing improvements on the property include the winery, a residence, ag barn, vineyard, groundwater wells, dirt and gravel driveways and the utility infrastructure associated with this type of residential and agricultural development.

The Use Permit Modification being reviewed proposes the following:

- Wine Production:
 - Increase to 48,000 gallons of wine per year
- Marketing Plan:
 - Daily Tours and Tastings by Appointment
 - Increase to 60 visitors per day maximum

The number of employees and marketing events will not change from the currently approved numbers shown above.

Eric Titus has requested that Applied Civil Engineering Incorporated (ACE) prepare a Tier I Water Availability Analysis in accordance with the Water Availability Analysis (WAA) – Guidance Document adopted by the Napa County Board of Supervisors on May 12, 2015 to accompany the Use Permit Modification application. The remainder of this report describes the estimated groundwater demand on the subject property for existing and proposed conditions, compares the estimated demand to the prescribed water use screening criteria and demonstrates compliance with the WAA – Guidance Document requirements.

ESTIMATED GROUNDWATER DEMAND

Groundwater is currently used for irrigation, winery and domestic purposes located on the subject parcel. The estimated groundwater demand is summarized in the table below and details of the calculations supporting these estimates are included in the Water Use Estimate Supporting Calculations in Appendix I.

Table I: Estimated Groundwater Demand

	Existing (ac-ft/yr)	Proposed (ac-ft/yr)
Residential	0.75	0.75
Winery	0.89	1.48
Vineyard Irrigation	11.5	11.5
Landscape Irrigation	1.3	1.3
Total	14.4	15.0

WATER USE SCREENING CRITERIA

According to the WAA - Guidance Document properties located in the Napa Valley Floor area are subject to a Water Use Screening Criteria of 1.0 acre-feet of water per acre of land per year. A project complies with the requirements of the Tier I WAA if the total water use on the property is less than 1.0 acre-feet per acre per year. If the Tier I Water Use Screening Criteria is met and the property is located in the Napa Valley Floor area Tier 2 and Tier 3 Analyses are not required unless substantial evidence exists in the record that indicates a potential significant impact from the project.

The subject property is located in the Napa Valley Floor area and the geology is mapped as Qha and Qhy (alluvium) on the USGS geology maps as shown in Figure 2.

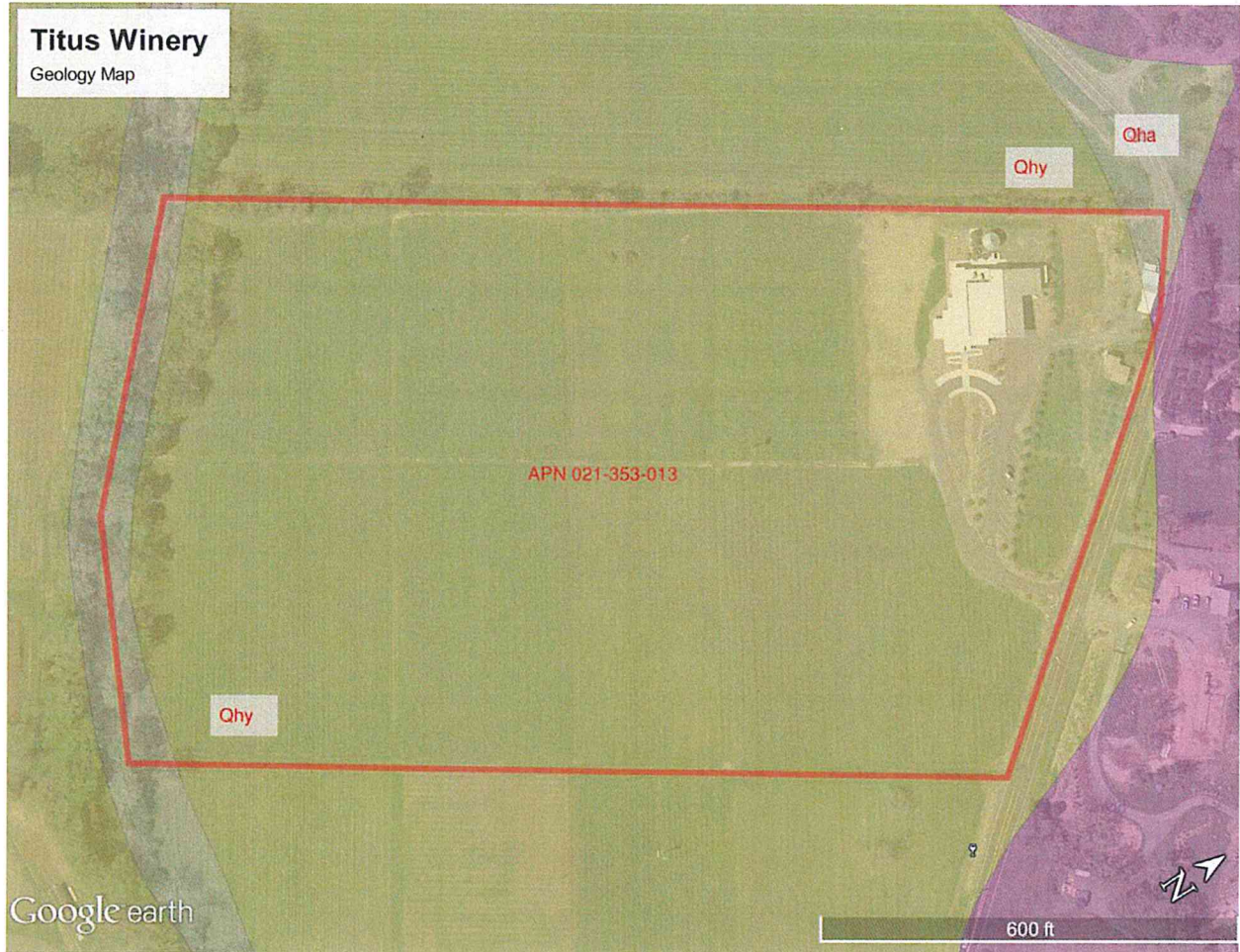


Figure 2: Geology Map Created with Google Earth Pro
 (Source USGS Scientific Investigations Map 2918)

Since all groundwater extraction is from the Napa Valley Floor area we have evaluated the screening criteria associated with the Napa Valley Floor.

The parcel size is approximately 31.77 acres and therefore the water use screening criteria is calculated as follows:

Water Use Screening Criteria = 31.77 acres x 1.0 acre-foot per acre per year

Water Use Screening Criteria = 31.77 acre-feet per year

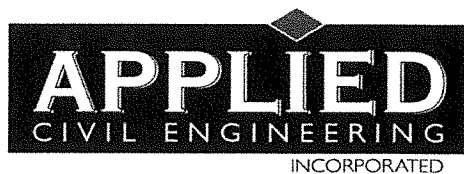
ANALYSIS

The total Estimated Water Use for existing conditions (14.4 ac-ft/yr) and proposed conditions (15.0 ac-ft/yr) are both significantly less than the Water Use Screening Criteria (31.77 ac-ft/yr).

CONCLUSION

Since the Water Use Screening Criteria is met the project is found to comply with the Napa County Water Availability Analysis requirements. Tier 2 and Tier 3 Analyses are not required according to the WAA – Guidance Document.

APPENDIX I: Water Use Estimate Supporting Calculations



Titus Winery

Groundwater Use Estimate

	Estimated Water Use (Acre-Feet / Year)	
	Existing	Proposed
Residential Water Use		
Primary Residence ⁽¹⁰⁾	0.750	0.750
Pool - Not Applicable	0.000	0.000
Second Dwelling Unit - Not Applicable	0.000	0.000
Guest Cottage - Not Applicable	0.000	0.000
Total Residential Domestic Water Use	0.750	0.750
Winery Domestic & Process Water Use		
Winery - Daily Visitors ⁽¹⁾⁽²⁾	0.134	0.201
Winery - Events with Meals Prepared Onsite ⁽¹⁾⁽³⁾	0.009	0.009
Winery - Events with Meals Prepared Offsite ⁽¹⁾⁽⁴⁾	0.023	0.023
Winery - Employees ⁽¹⁾⁽⁵⁾	0.202	0.202
Winery - Event Staff ⁽¹⁾⁽⁵⁾	0.008	0.008
Winery - Process ⁽⁶⁾	0.516	1.032
Total Winery Water Use	0.892	1.475
Irrigation Water Use		
Lawn ⁽⁷⁾	0.000	0.000
Other Landscape ⁽⁸⁾	1.300	1.300
Vineyard - Irrigation	11.500	11.500
Vineyard - Frost Protection	0	0
Vineyard - Heat Protection	0	0
Total Irrigation Water Use	12.800	12.800
Total Combined Water Use	14.4	15.0

Estimates per Napa County Water Availability Analysis - Guidance Document, May 12, 2015 unless noted

⁽¹⁾ See attached Winery Production, Guest, Employee and Event Staff Statistics

⁽²⁾ 3 gallons of water per guest per Napa County WAA Guidance Document

⁽³⁾ 15 gallons of water per guest per Napa County WAA - Guidance Document

⁽⁴⁾ 5 gallons of water per guest used because all food preparation, dishwashing, etc. to occur offsite

⁽⁵⁾ 15 gallons per shift per Napa County WAA - Guidance Document

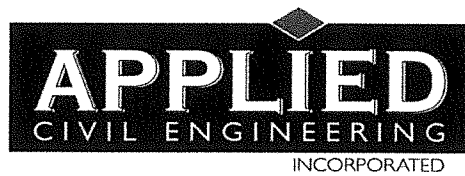
⁽⁶⁾ 2.15 ac-ft per 100,000 gallons wine per Napa County WAA - Guidance Document

⁽⁷⁾ 0.1 ac-ft/yr per 1,000 sf of lawn per Napa County WAA - Guidance Document - 0 ac lawn

⁽⁸⁾ Landscape irrigation estimate per irrigation calculations prepared by others for winery building permit.

⁽⁹⁾ 0.5 ac-ft/ac/yr per applicant - 23 ac vineyard

⁽¹⁰⁾ 0.5 to 0.75 ac-ft/yr per Napa County WAA Guidance Document



Titus Winery

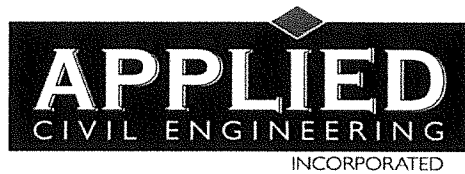
Winery Production, Visitor, Employee & Event Staff Statistics - Existing Conditions

Winery Production⁽¹⁾	24,000	gallons per year
Tours and Tastings by Appointment⁽¹⁾		
Monday through Thursday	40 guests max per day	
Friday through Sunday	40 guests max per day	
Total Guests Per Year		14,560
Events - Meals Prepared Offsite⁽¹⁾		
12 per year	125 guests max	1,500
0 per year	0 guests max	0
0 per year	0 guests max	0
Total Guests Per Year		1,500
Events - Meals Prepared Onsite⁽¹⁾		
8 per year	25 guests max	200
0 per year	0 guests max	0
0 per year	0 guests max	0
Total Guests Per Year		200
Winery Employees⁽²⁾		
12 employees	1 shift per day	
Total Employee Shifts Per Year		4,380
Event Staff⁽³⁾		
12 per year, 125 guests	13 event staff	156
8 per year, 25 guests	3 event staff	24
0 per year, 0 guests	0 event staff	0
Total Event Staff Per Year		180

⁽¹⁾ Winery production, tours and tasting and event guest statistics per Winery Use Permit

⁽²⁾ Employee counts per Winery Use Permit

⁽³⁾ Assumes 1 event staff per 10 guests (in addition to regular winery employees)



Titus Winery

Winery Production, Visitor, Employee & Event Staff Statistics - Proposed Conditions

Winery Production⁽¹⁾	48,000	gallons per year
Tours and Tastings by Appointment⁽¹⁾		
Monday through Thursday	60 guests max per day	
Friday through Sunday	60 guests max per day	
Total Guests Per Year		21,840
Events - Meals Prepared Offsite⁽¹⁾		
12 per year	125 guests max	1,500
0 per year	0 guests max	0
0 per year	0 guests max	0
Total Guests Per Year		1,500
Events - Meals Prepared Onsite⁽¹⁾		
8 per year	25 guests max	200
0 per year	0 guests max	0
0 per year	0 guests max	0
Total Guests Per Year		200
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