“F”

Water Availability Analysis

BARTELT ENGINEERING

WATER AVAILABILITY ANALYSIS FOR EHLERS ESTATE WINERY 3200 EHLERS LANE, NAPA COUNTY, CA APN 022-100-029

As required by Napa County Planning, Building & Environmental Services (PBES), this study outlines the availability of groundwater for an existing winery located at 3200 Ehlers Lane, St. Helena, CA 94574.

PROJECT DESCRIPTION

It is our understanding that Ehlers Estate Winery is proposing to increase wine production from 25,000 gallons per year to 35,000 gallons per year. The existing winery is proposing to employ 13 full time employees, four (4) part-time employees, and two (2) seasonal (harvest) employees (19 proposed employees total) as well as modify the marketing plan to include the following:

- Ten (10) trade dinners per year with a maximum of 20 guests.
- Three (3) marketing events per year with a maximum of 100 guests
- One (1) large event per year with a maximum of 200 guests per year.

The winery was originally approved under Use Permit No. U-297576 and modified under Permit No. P05-0231. Refer to the current Use Permits for additional information on approved uses.

Table 1 summarizes the approved and proposed staffing plan:

TABLE 1: STAFFING PLAN SUMMARY

Description	Number of Employees	Frequency
Full-time Employees	13	Daily
Part-time Employees	4	Daily
Harvest/Seasonal Employees	2	Daily

Table 2 summarizes the approved and proposed marketing plan:

TABLE 2: PROPOSED MARKETING PLAN SUMMARY			
Description	Number of Guests	Event Staff	Frequency
Private Tours & Tastings	100	0 per day	Daily
Trade Dinners	20	0 per day	10 annually
Marketing Events	100	5 per event	3 annually
Large Event	200	10 per event	1 annually

The subject parcel also includes an existing four (4) bedroom residence, an onsite wastewater treatment system, and operates a transient noncommunity public water system.

This analysis outlines the water available for the subject parcel to support the water usage demand from the increase in wine production, staff members, and marketing events per Napa County PBES guidelines.

EXHIBITS

The USGS "Topographic Site Location Information" included in the Use Permit Modification application package shows the project site and approximate property line locations. Information regarding the location of the existing well, structures, and neighboring wells are shown on the associated Use Permit Modification Drawings. All exhibits and drawings mentioned above were prepared by Bartelt Engineering.

WATER USE CRITERIA

Table 3 Groundwater Overview, shown below, summarizes the water criteria used to evaluate the available groundwater for the subject parcel per the PBES Water Availability Analysis (WAA)-Guidance Document dated May 12, 2015.

TABLE 3: GROUNDWATER OVERVIEW	
Parcel Zoning	Agricultural Preserve (AP)
Project Parcel Location	Napa Valley Floor
Parcel Size	13.83 ± acres
Water Use Criteria	1 acre-feet per acre per year
Well and Spring Interference	No
Groundwater/Surface Water Interaction	No
Screening Tier	Tier 1

SOURCE WATER INFORMATION

The subject parcel contains two (2) groundwater wells. A description of each water source is summarized below:

- The existing domestic (winery) well is located near the Wine Production Building and provides domestic, landscape, fire, and process water uses.

- The existing irrigation (vineyard) well is located near Ehlers Lane on the northwesterly side of the subject parcel within the vineyard and is currently used for vineyard irrigation water uses only.

Changes to the existing water sources are not being proposed at this time. Refer to the Technical, Managerial and Financial (TMF) Capacity worksheet for additional information on the existing water system and proposed modifications included with the Use Permit Modification Application.

Well Description

According to the Well Drillers Report, filed by McLean & Williams, Inc. Well, Drilling & Pump Service, the winery well was drilled in April 2006 to a total depth of 350 feet with a completed well depth of 350 feet. The well casing is 8 inch internal diameter F480, 200 gauge polyvinyl chloride (PVC) with factory screen/slots between depth of 110 feet to 190 feet and 250 feet to 350 feet. The well was constructed with a 59 foot deep concrete annular seal. A copy of the Well Drillers Report is attached for additional information.

Information regarding the existing irrigation well is unknown at this time.

Well Yield Information

When the domestic (winery) well was drilled, the estimated safe yield was determined to be 75± gallons per minute (gpm) although this may not be representative of the well's long-term yield.

Water System Classification

The water system at Ehlers Estate Winery is permitted as a state regulated Public Water System (PWS)[1] because it serves more than 25 people per day at least 60 days per year. The PWS is classified as transient noncommunity (TNC) because it does not serve 25 or more yearlong residents, has less than 15 connection and does not serve 25 or more of the same people at least six (6) months of the year. The PWS classification will not change as part of this Use Permit Modification Application.

[1] The public water system source code number is 28-00101; refer to the Public Water System permit for additional information.

Neighboring Water Source(s)

Based on review of neighboring property records from the Napa County PBES online parcel files, neighboring wells or surface water sources do not appear to interfere[2] with the existing domestic (winery) well. The existing (vineyard) irrigation well is located less than 500 feet from an existing well that is located on the neighboring parcel (APN 022-100-008). This neighboring parcel is under the same ownership as the subject parcel. Since the two (2) existing wells are under the same ownership and both used for vineyard irrigation a well interference analysis is not being performed. Refer to the attached Use Permit Modification Drawings prepared by Bartelt Engineering for location of the existing onsite wells and neighboring wells within the vicinity of the subject parcel.

Water Quality

Water analysis was performed as part of the PWS permit application with Napa County PBES in 2006-2007 for the domestic (winery) well. The water sources are not changing as part of the Use Permit Modification Application and water quality is not being further analyzed at this time. Water quality results are on file with the Napa County PBES Department and the State of California Drinking Water Program as part of the PWS Permit.

GROUNDWATER SUBAREA

According to the Napa County Watershed Information & Conservation Council (WICC), the subject parcel is located within the Napa Valley Floor – Calistoga groundwater subarea. The Napa Valley Floor – Calistoga groundwater subarea consists of 8,951± acres.

WATERSHED INFORMATION

The subject parcel is located within the Hirsh Creek sub-basin of the Napa River Watershed. The Hirsh Creek sub-basin spans 850± acres and is not part of a municipal watershed.

GEOLOGICAL FEATURES

According to the Soil and Geology Map located on the WICC website, the subject parcel and surrounding areas appear to be underlain with the following geologic features:

- Surficial Deposits (Quaternary) – Alluvial fan deposits
- Sonoma Volcanic (Pliocene-Miocene) – Rhyolitic Lava Flows

WATER DEMAND

Estimated Water Use

The total water demand for the existing and proposed uses for the project is calculated based on the *Guidelines for Estimating Residential and Non-residential Water Use* from the WAA Guidance Document (2015), project wastewater flowrates[3], irrigation data from the

[2] Interference distance is based on Napa County PBES requirements included in the Water Availability Analysis.
[3] Refer to the Onsite Wastewater Dispersal Feasibility Study for Ehlers Estate Winery prepared by Bartelt Engineering for additional information on wastewater calculations.

vineyard manager and estimated landscape irrigation water usage. The existing water demand is based on the Phase One Water Availability Analysis for the Leducq Vineyards Winery, 3200 Ehlers Lane, St. Helena, CA, APN 022-100-024 & 025 prepared by Bartelt Engineering dated June 9, 2003 (refer to attachment for additional information). The existing and proposed water demands are summarized below:

Existing Water Demand = 5.14 acre-feet per year

Proposed Water Demand = 5.21 acre-feet per year

Refer to the attached *Table I – Existing Water Demand* and *Table II – Proposed Water Demand* for additional information on water demand calculations.

The proposed water demand is anticipated to increase as part of the proposed project. Treated process wastewater from the winery is proposed to be beneficially reused onsite as part of the proposed project for onsite vineyard irrigation. The proposed water demand will likely be less than what is calculated in this analysis with the proposed beneficial reuse, however the most conservative analysis is presented to provide flexibility in water sources available for onsite vineyard irrigation.

Napa Valley Floor Allowable Water Allotment

Per *Table 2A: Water Use Criteria* from the WAA Guidance Document (2015), the water use criteria for a parcel located in the Napa Valley Floor is defined as 1 acre-feet per acre per year. The subject parcel is entirely located within the Napa Valley Floor. The allowable water allotment for the applicable area is calculated below.

Allowable Water Allotment (acre-ft/year) =

Napa Valley Floor parcel area (acres) x Water use criteria (acre-ft/acre-year)

= 13.83 acres x 1 acre-ft/acres-year = 13.83 acre-ft/year

The allowable water allotment for the subject parcel is estimated to be 13.83 acre-feet per year which is greater than the proposed water demand of 5.21 acre-feet per year.

Conclusion

The above analysis shows that the groundwater demand from the proposed project is less than the subject parcel water allotment. The estimated available water for the subject parcel satisfies the Tier 1 Water Use Criterion of the Napa County Water Availability Analysis.

Attachments

Topographic Site Location Map

Table I – Existing Water Demand

Table II – Proposed Water Demand

Well Information

Phase One Water Availability Analysis for the Leducq Vineyards Winery

REFERENCES

Brownstein Hyatt Farber Schreck. (2011, August 25). Water Supply Assessment for the Napa Pipe Project Napa County, California.

DHI Water Environment. (2005 - Version 1, November 30). Napa County Baseline Data Report. Chapter 16. Groundwater Hydrology.

Johnson, A. (1967). Specific Yield - Completion of Specific Yields for Various Materials. California Department of Water Resources. Geological Survey Water Supply Paper 1662-D.

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Luhdhorff & Scalmanini Consulting Engineers and MBK Engineers. (January 2013). *Updated Hydrogeological Conceptualization and Characterization of Conditions Prepared for Napa County.*

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

Napa County Watershed Information & Conservation Council (WICC). (n.d.). Retrieved from www.napawatershed.org

National Climate Data Center (NCDC). (1995). Retrieved from www.worldclimate.com

PRISM Climate Group, Oregan State University. (2014). Retrieved from http://prism.oregonstate.edu

Santa Rosa Plan Basin Advisor Panel. (2014). Santa Rosa Watershed Groundwater Management Plan.

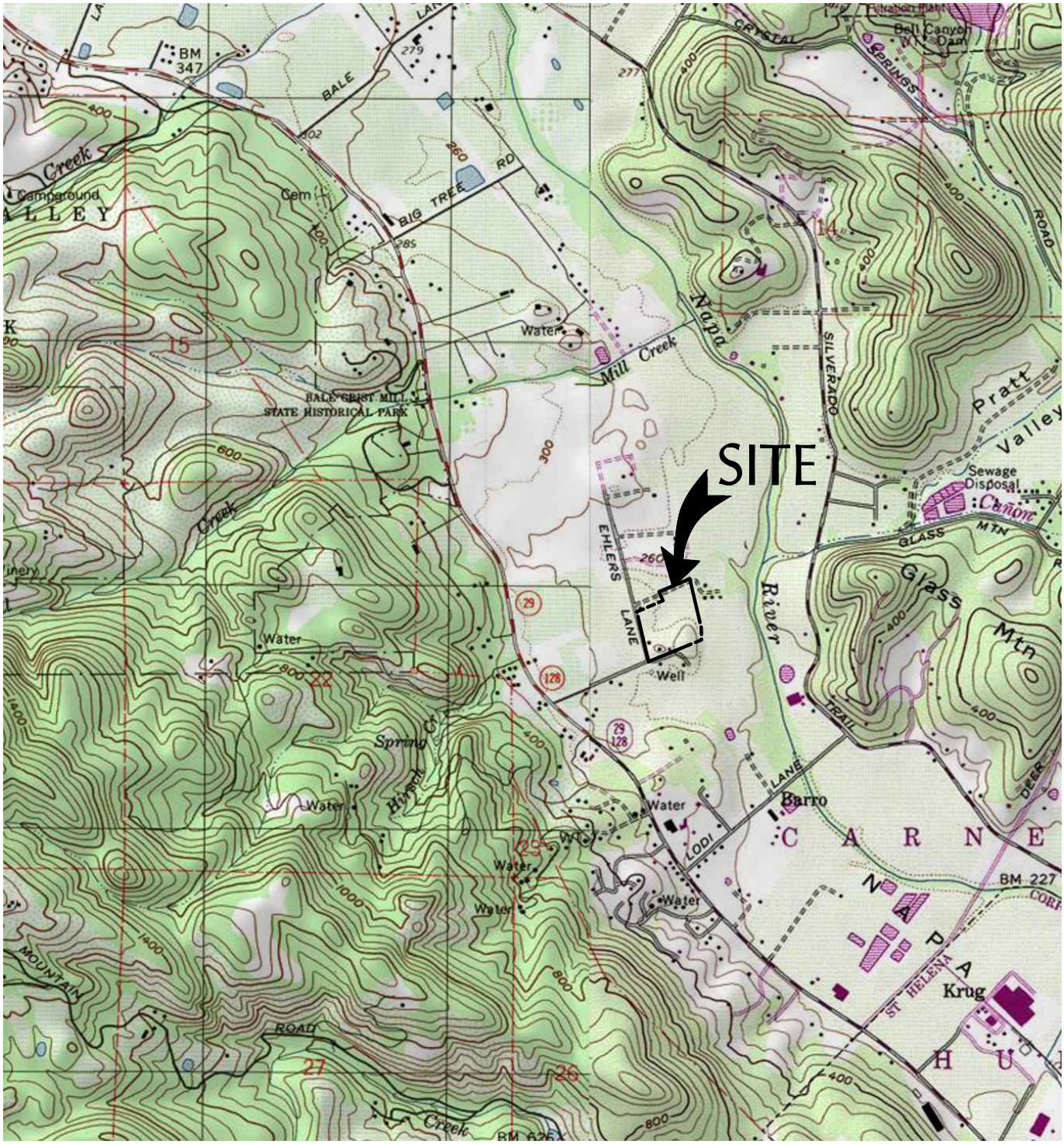
Stamski, R. (2007). Geologic map and map database of eastern Sonoma and western Napa Counties, California. U.S. Geological Survey Scientific Investigations Map 2956.

United States Geological Survey (USGS). (1960). Geology and Ground Water in the Napa and Sonoma Valleys, Napa and Sonoma Counties, California. *US Geological Survey Water Supply Paper 1495*.

TOPOGRAPHIC SITE LOCATION INFORMATION

USGS 7.5 MINUTE QUADRANGLE "SAINT HELENA"

Scale: 1" = 2000'



BARTELT ENGINEERING
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1303 Jefferson Street, 200 B, Napa, CA 94559
www.barteltengineering.com
· Telephone: 707-258-1301 ·

Ehlers Estate Winery
3200 Ehlers Lane
St. Helena, CA
APN 022-100-029

Job No. 02-54

Ehlers Estate Winery
Existing Water Demand
Table I

BARTELT ENGINEERING

Subject Parcel Size:	13.83	acres
Winery Production Limit:	25,000	gallons/year
Vineyard Area	10.4	acres

EXISTING WATER DEMAND		
Description	**Water Usage Rate[1]**	**Water Demand (acre-feet/year)**
Residential		
Primary Residence	0.5 acre-feet/acre-year	0.5
Secondary Residence or Farm Labor Dwelling	0.5 acre-feet/acre-year	-
Agricultural		
Vineyards		
Irrigation Only	0.38 acre-feet/acre-year	3.97
Heat Protection	0 acre-feet/acre-year	0.00
Frost Protection	0 acre-feet/acre-year	0.00
Irrigated Pastures	4 acre-feet/acre-year	-
Orchards	4 acre-feet/acre-year	-
Livestock (sheep or cows)	0.01 acre-feet/acre-year	-
Winery		
Process Water	2.15 acre-feet/100,000 gallon of wine	0.54
Domestic & Landscaping	0.5 acre-feet/100,000 gallon of wine	0.13
Industrial		
Food Processing	31 acre-feet/employee-year	-
Printing/Publishing	0.06 acre-feet/employee-year	
Commercial		-
Office Space	0.01 acre-feet/employee-year	-
Warehouse	0.05 acre-feet/employee-year	-
	Estimated Proposed Water Demand (acre-feet/year):	**5.14**
	Estimated Proposed Water Demand (gallons/year):	**1,674,874**

Notes:

1) Existing water demand is sourced from the Phase One Water Availability Analysis for the Leducq Vineyards Winery, 3200 Ehlers Lane, St. Helena, CA APN 022-100-024 & -025 dated June 9, 2003 prepared by Bartelt Engineering.

Ehlers Estate Winery
Proposed Water Demand
Table II

BARTELT ENGINEERING

Subject Parcel Size:	13.83	acres
Winery Production Limit:	35,000	gallons/year
Vineyard Area:	9.9	acres

PROPOSED WATER DEMAND

Description	Water Usage Rate[2]	Water Demand (acre-feet/year)
Residential		
Primary Residence[3]	0.5 acre-feet/acre-year	0.5
Secondary Residence or Farm Labor Dwelling	0.5 acre-feet/acre-year	-
Agricultural		
Vineyard[3]		
Irrigation Only	0.38 acre-feet/acre-year	3.78
Heat Protection	0 acre-feet/acre-year	0.00
Frost Protection	0 acre-feet/acre-year	0.00
Irrigated Pastures	4 acre-feet/acre-year	-
Orchards	4 acre-feet/acre-year	-
Livestock (sheep or cows)	0.01 acre-feet/acre-year	-
Winery		
Process Water	2.15 acre-feet/100,000 gallon of wine	0.75
Domestic & Landscaping	0.5 acre-feet/100,000 gallon of wine	0.18
Industrial		
Food Processing	31 acre-feet/employee-year	-
Printing/Publishing	0.06 acre-feet/employee-year	
Commercial		-
Office Space	0.01 acre-feet/employee-year	-
Warehouse	0.05 acre-feet/employee-year	-
	Estimated Proposed Water Demand (acre-feet/year):	**5.21**
	Estimated Proposed Water Demand (gallons/year):	**1,696,587**

Notes:
1) Includes vineyard removal from proposed improvements included with the Use Permit Modification Application.
2) Water usage rates referenced from *Appendix B: Estimated Water Use of Specified Land Use* from Napa County WAA-Guidance Document (2015) unless stated otherwise.
3) Water usage is not changing and is asuumed to equal exisitng conditions; see *Existing Water Demand* calculations for additional information.

NAPA COUNTY

DEPARTMENT OF Environmental Management
1195 THIRD STREET ROOM 101 NAPA, CALIFORNIA 94559
PHONE 707-253-4471 FAX 707-253-4545 www.co.napa.ca.us

TRENT CAVE, R.E.H.S.
Director of Environmental Management

WELL PERMIT

Permit Number:	**E05-0503**		
Status:	**ISSUED**	Applied:	07/01/2005
Comp Type:	EMWELLS - CLASS I	Issued Date:	07/01/2005
Fee:	$273.00	Permit Expires On:	07/01/2007
Site Address:	**3200 EHLERS LANE STH**	**Parcel Number:**	022-100-~~029-000~~ 024
Owner:	**NEW VAVIN INC**	Phone:	22-100-029
Address:	DBA LEDUCQ VINEYARDS 3222 EHLERS LN 94574		
Applicant:	**MCLEAN & WILLIAMS INC**	Phone:	**255-6450**

Type of Project: **Class IB Well Construction (96-01)**

Prosposed Use:

Private: Y Public: Geothermal: Other:

Well to serve this parcel only? Y If no APN#

Well located in flood zone? N

Water Supply:

All set backs required by code met: Y

Haz-Mat site: N

Ground Water Permit required: N

Emergency exemption Granted:

Specifications:

Casing Diameter:6 in. Boring diameter:12.75in. Annular seal: 3 in

Method: Tremmie Material: grout

Minimum seal depth 50 ft. (or in to first imperious layer, whichever is deeper):

Worker's Compensation Coverage:

(X) A certificate of current Worker's Comp. Insurance Coverage is on file with this office (or filed with this application).

( ) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation laws of California.

I the undersigned, hereby assume fully all risks associated with providing incorrect information as to the location of the septic systems. I acknowledge that the County of Napa will issue a well permit in reliance upon information contained in this application and, on behalf of myself, heirs, administrators and/or assigns, I hereby fully release the County, its elected officials, officers and employees from any and all claims and liability whether actual or potential, known or unknown, that may arise in connection with the information provided in the application.

Licensed Driller Signature: MAILED Date: 7·1·05

Staff Signature: [signature] Date: 7·1·05

NAPA COUNTY

DEPARTMENT OF Environmental Management
1195 THIRD STREET ROOM 101 NAPA, CALIFORNIA 94559
PHONE 707-253-4471 FAX 707-253-4545 www.co.napa.ca.us

TRENT CAVE, R.E.H.S.
Director of Environmental Management

CONDITIONS/INSPECTIONS

Type: EMWELLS SubType: CLASS I

Owner:	NEW VAVIN INC		Permit Number:	**E05-0503**
	STH EHLERS LANE	STH	Status:	**ISSUED**
Parcel No:	**022-100-~~029-000~~** 024		Applied Date:	**07/01/2005**
Applicant:	**MCLEAN & WILLIAMS INC**		Issue Date:	**07/01/2005**

Conditions

1: Well Permit will not be finaled until Well Log is received
2: Call (253-4135) at least 24 hours in advance during normal business hours, to schedule inspection requests.
3: A copy of the State of California Well Completion Report must be submitted within 60 days of well completion.
4: Permits are issued only to licensed well drillers. A copy of the well driller's license (C-57) must be on file with DEM.
5: If a claim is to be submitted for a refund, per County Code, a 25% processing fee wil be retained. Such claims must be made within one year of the date on the receipt.
6: The applicant shall comply with the Department of Public Works "Conditions of Approval_National Pollution Discharge Elimination System Requirements", a copy of which was provided at the time of permit issuance. Failure to comply with the NPDES requirements will result in a stop-work order.

Inspections	**Inspected by:**	**Date:**
Item: 00670 E-Construction Inspection 59' 8"/14"	WR	04/14/06

QUADRUPLICATE
For Local Requirements

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 1078823

Page ___ of ___
Owner's Well No. ___
Date Work Began 4/6/06, Ended 4/20/06
Local Permit Agency Napa
Permit No. E05-0503 Permit Date 7/1/05

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD mud FLUID betonite

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	20	topsoil clay
20	30	lt brown clay rock imbedded
30	50	brown clay black tan red brown rock
50	70	brown sandy clay gray rock
70	90	brown sandy clay black rock
90	110	green black white red brown rock
110	130	black green rock green clay
130	150	black green rock green clay
150	170	black gray white red green rock
170	190	black white green red rock green clay
190	210	gray black red green rock gray clay
210	230	sandy gray clay black rock
230	250	sandy gray clay black gray rock
250	270	black gray white green red rock
270	290	gray black red rock gray clay
290	310	gray black red rock gray clay
310	330	black gray rock gray clay
330	350	black gray rock gray clay

RECEIVED
AUG 30 2006
DEPT. OF ENVIRONMENTAL MANAGEMENT

TOTAL DEPTH OF BORING 350 (Feet)
TOTAL DEPTH OF COMPLETED WELL 350 (Feet)

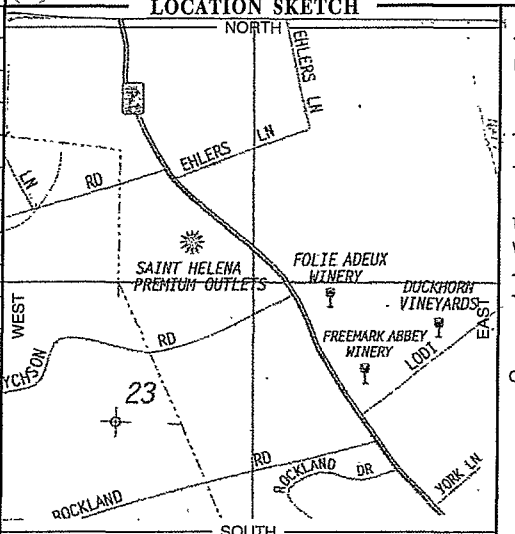
WELL OWNER

Name [redacted]
Mailing Address [redacted]
CITY [redacted] STATE CA ZIP [redacted]

WELL LOCATION

Address 3200 Ehlers Lane
City St. Helena
County Napa
APN Book 22 Page 100 Parcel 024 029
Township ___ Range ___ Section ___
Lat ___ N (DEG. MIN. SEC.) Long ___ W (DEG. MIN. SEC.)

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. ***PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

___ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)
WATER SUPPLY X
___ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER ___ (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 24 (Ft.) & DATE MEASURED 4/20/06
ESTIMATED YIELD * 80 (GPM) & TEST TYPE Air
TEST LENGTH 10 (Hrs.) TOTAL DRAWDOWN 320 (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	59	14	X				F400	8	200	
59	110	12 3/4	X				F400	8	200	
110	190	12 3/4		X			F400	8	200	factory
190	250	12 3/4	X				F400	8	200	
250	350	12 3/4		X			F400	8	200	factory

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	59	X			
59	350				[illegible]

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME McLean & Williams, Inc.
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 878 El Centro Ave., Napa, CA 94558 CITY ___ STATE ___ ZIP ___
Signed [signature] DATE SIGNED 9/24/06 C-57 LICENSE NUMBER [illegible]
C-57 LICENSED WATER WELL CONTRACTOR

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

BARTELT
engineering

June 9, 2003
#02-54

Charles Wilson, Director
Napa County Conservation, Development
and Planning Department
1195 Third Street, Room 210
Napa, CA 94559

Re: Phase One Water Availability Analysis for the Leducq Vineyards Winery, 3222 Ehlers Lane, Saint Helena, CA, APN 022-100-024 & -025

Dear Mr. Wilson:

As required by the County of Napa Public Works Department, and the interim policy approved by the Planning Commission on March 6, 1991, this letter outlines a Phase One Water Availability Analysis for the Leducq Vineyards Winery Use Permit Modification application.

As outlined in the interim policy a reconnaissance level report for this site has been prepared with the following items being pertinent to the study:

Site Plan

A USGS site map showing the site and approximate property line locations is attached. Information regarding the locations of the existing wells, structures and vineyards is shown on the Leducq Winery Conceptual Site Plan prepared by Bartelt Engineering. Information regarding the location of the existing wells on adjacent properties was unavailable at the time this report was prepared.

Project Description

It is our understanding that the winery will maintain its full crushing production of 25,000 gallons of wine per year. Production will be relocated from the existing winery building to the existing barrel storage building that is going to be expanded to accommodate production activities. The existing winery building will be used for offices and retail sales and tastings and barrel storage will be moved to the newly proposed caves. The staffing level will be maintained at 7 full-time employees and 3 seasonal (harvest) employees. Tours and tastings will be scheduled thirty times per year by appointment only with an average of 10 visitors per event and 20 visitors on a peak day visiting the winery. Private promotional events and dinners will be scheduled eight times per year with a maximum of

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(707) 258-2926 fax

35 guests in attendance. It is also planned that the winery will host three wine auction related or similar events per year with a maximum attendance of 75 guests. In order to maintain sanitary wastewater flows at an acceptable level, all food preparation and dishwashing activities will take place offsite and daily tours and tastings, private promotional dinners and wine auction related events will not be scheduled on the same day.

Projected Water Consumption

The total water requirements for the existing and proposed uses on the subject parcels are calculated below using quantities provided in the staff report from County of Napa Public Works Department. Current water use will be based on the existing parcel configurations and projected water use will be based on the parcel configurations that will result from the proposed lot line adjustment.

Current Water Use Using the Napa County Interim Policy

Existing Winery Parcel (APN 022-100-024)

Single Family Residence (see attachment D)	0.50 acre-feet/year
Vineyard Irrigation (10.40 acres - see attachment D)	3.97 acre-feet/year
Winery Process Water (see attachment D)	0.54 acre-feet/year
Winery Domestic & Landscaping Water (see attachment D)	0.13 acre-feet/year
Total Current Water Use for this parcel =	5.14 acre-feet/year

Existing Estate House Parcel (APN 022-100-025)

Single Family Residence (see attachment D)	0.50 acre-feet/year
Vineyard Irrigation (0.05 acres - see attachment D)	0.02 acre-feet/year
Total Current Water Use for this parcel =	0.52 acre-feet/year

Current Water Use for both existing parcels combined = 5.14 ac-ft/year + 0.52 ac-ft/year

Current Water Use for both existing parcels combined = 5.66 acre-feet/year

Projected Water Use Using the Napa County Interim Policy

Proposed Winery & Estate House Parcel (APN to be determined)

Single Family Residence (see attachment D)	0.50 acre-feet/year
Vineyard Irrigation (9.23 acres - see attachment D)	3.53 acre-feet/year

Winery operations are not being changed therefore the projected water use will be the same as the current water use:

Winery Process Water (see Attachment D)	0.54 acre-feet/year
Winery Domestic & Landscape Water (see Attachment D)	0.13 acre-feet/year
Total Projected Water Use for this proposed parcel =	4.70 acre-feet/year

Proposed Caretaker's Residence Parcel (APN to be determined)

Single Family Dwelling (see attachment D)	0.50 acre-feet/year
Vineyard Irrigation (0.94 acres - see attachment D)	0.36 acre-feet/year
Total Projected Water Use for this proposed parcel =	0.86 acre-feet/year

Projected Water Use for both proposed parcels combined = 4.70 ac-ft/year + 0.86 ac-ft/year

Projected Water Use for both proposed parcels combined = 5.56 acre-feet/year

Acceptable Threshold Water Use
(Calculated using Napa County Interim Policy for water usage in valley floor areas)

1.00 acre-feet/acre of site - valley floor

The following calculation assumes that both parcels, both proposed and existing, lie in an area designated as valley floor.

Acceptable water use = 14.90 acres x 1.00 acre-feet/year = 14.90 acre-feet/year

The above analysis shows that the projected water usage for the proposed parcels will be less than the current water usage for the existing parcels and less than the acceptable threshold water usage for the subject parcels. Irrigation to maintain the vineyard typically begins in April and continues until November, with the peak vineyard irrigation period between May and August. Vineyard irrigation will be at a reduced level prior to and during the harvest, typically during September and October.

Existing Water Source and Storage Capacity

According to the Property Owner, domestic, irrigation and fire protection water is currently provided from an existing onsite well. Well water will continue to be pumped from the existing well to storage tanks sized per California Department of Forestry & Fire Protection Standards to satisfy domestic, landscape, vineyard, winery and fire protection requirements.

Summary and Conclusions

The water use requirements for the Leducq Vineyards Winery on Ehlers Lane are projected to be less than the acceptable threshold water usage level in accordance with the Interim Water Availability Policy; therefore, a Phase Two and/or Phase Three Analysis should not be required. The above information and the attached plans should assist you in processing the subject Use Permit. If you have any questions regarding the information provided, please feel free to call me.

Sincerely,

REGISTERED PROFESSIONAL ENGINEER
PAUL N. BARTELT
NO. 45102
Exp. 09-30-06
CIVIL
STATE OF CALIFORNIA

Paul N. Bartelt, P.E.
Principal Engineer

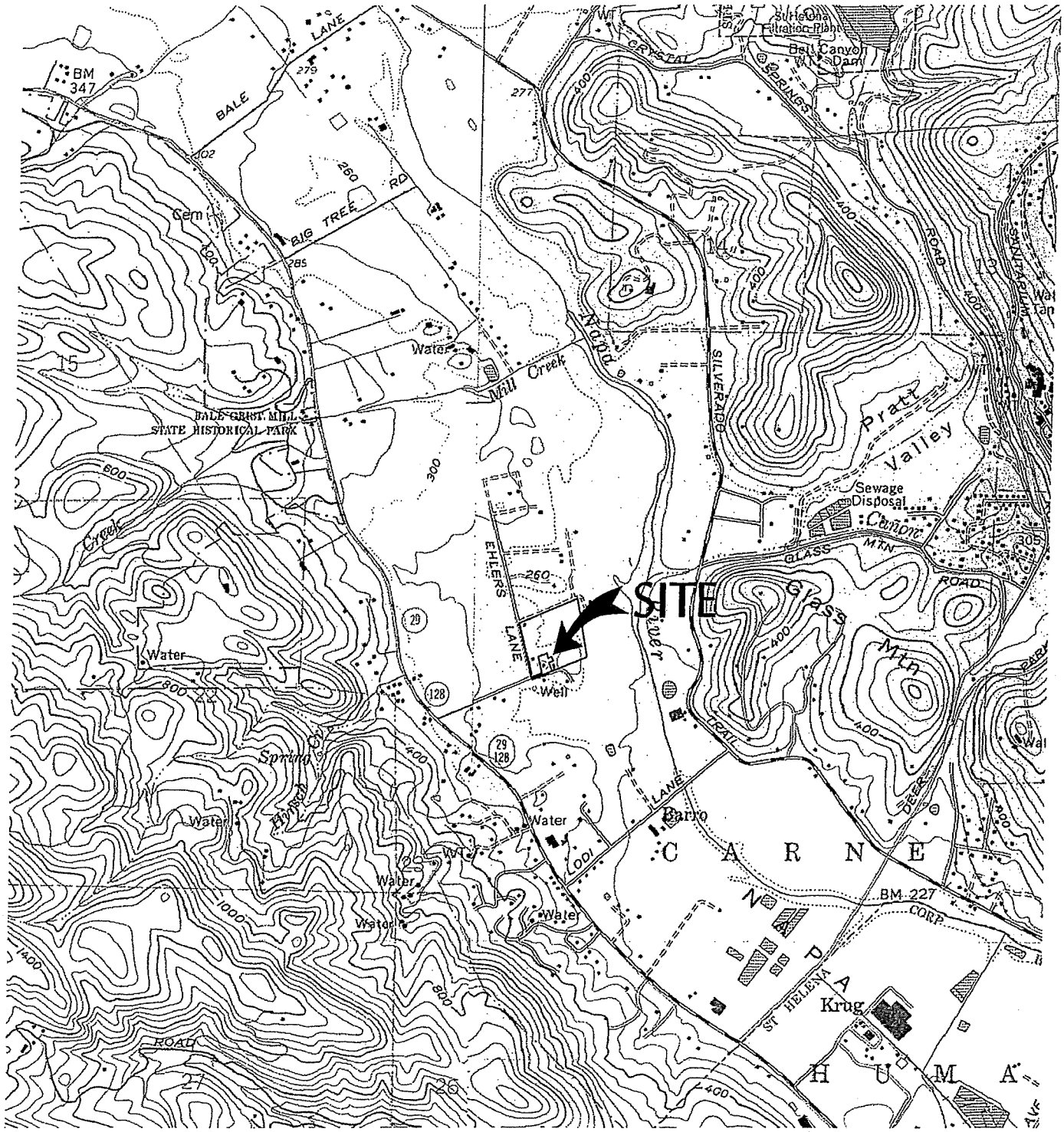
PNB:sd

cc: Vance Rose, Leducq Vineyards
Debbie Quick, Dickenson, Peatman & Fogarty
Rory McCarthy; Rory McCarthy Design

TOPOGRAPHIC SITE LOCATION INFORMATION

USGS 7.5 MINUTE QUADRANGLE "SAINT HELENA"

Scale: 1" = 2000'



BARTELT engineering

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Leducq Vineyards
3222 Ehlers Lane
Saint Helena, CA
APN 020-100-024

Job no. 02-54

June 2003

Attachment D

PHASE I WATER AVAILABILITY ANALYSIS

File #:__ __-__ __ __ Owner: Leducq Vineyards Parcel #: 022-100-024 & -025

This form is intended to help those who must prepare a Phase I Water Availability Analysis. **The Department will not accept an analysis that is not on this form.**

BACKGROUND: A Phase I Water Availability Analysis is done in order to determine what changes in water use will occur on a property as a result of the a conversion. Staff uses this information to determine whether the project may have a detrimental effect on groundwater levels. If it may, additional information will be required. You will be advised if additional information is needed.

PERSONS QUALIFIED TO PREPARE: Any person that can provide the needed information

PROCEDURE:

STEP 1: *Prepare and attach to this form an 8-1/2"x11" site plan of your parcel(s) with the locations of all structures, gardens, vineyards, etc in which well water will be used shown*

STEP 2: *Determine the allowable groundwater use allotment for your parcel(s).*

Total size of parcel(s)	14.90	acre(s) (two parcels combined)
Multiply by parcel location factor	x 1.00	acre-foot per acre per year (see next page)
Allowable groundwater allotment	= 14.90	acre-foot per year

STEP 3: *Determine the estimated water use for all vineyards on your parcel(s) currently and after the planned conversion; actual water usage figures may be substituted for the current usage estimate (please indicate if this is done). Estimate future use for both the vineyard establishment period and thereafter*

Current Usage:

Number of *planted* acres	10.45	acres
Multiply by number of vines/acre	x 1,245	vines per acre
Multiply by gallons/vine/year	x 100	gallons of water per vine per year
Divide by 325,851 gallons/af	= 3.99	af of water per yr used for vineyard irrigation

Future Usage:

Number of *planted* acres	10.17	acres
Multiply by number of vines/acre	x 1,245	vines per acre
Multiply by gallons/vine/year	x 100	gallons of water per vine per year (long-term)
	100	gallons of water per vine per year (establish)
Divide by 325,851 gallons/af	= 3.89	af of water per yr used (vineyard long-term)
	N/A	af of water per yr used (vineyard establish)

STEP 4: *Using the guidelines on the next page, actual water usage figures, and/or detailed water use projections, tabulate the existing and projected future water usage on the parcel(s) in acre-foot per year (af/yr) {1 af = 325,821 gallons}.*

Existing Usage:

Residential	1.00	af/yr
Farm Labor Dwelling	-0-	af/yr
Winery	0.67	af/yr
Commercial	-0-	af/yr
Vineyard (long-term)	3.99	af/yr
" (establish)	N/A	af/yr

Future Usage:

Residential	1.00	af/yr
Farm Labor Dwelling	-0-	af/yr
Winery	0.67	af/yr
Commercial	-0-	af/yr
Vineyard (long-term)	3.89	af/yr
" (establish)	N/A	af/yr

Other Agriculture	-0-	af/yr	Other Agriculture	-0-	af/yr
Landscaping	-0-	af/yr	Landscaping	-0-	af/yr
Other Usage	-0-	af/yr	Other Usage	-0-	af/yr
TOTAL	5.66	af/yr	TOTAL	5.56	af/yr

STEP 5: *Attach all supporting information that may be significant to this analysis including but not limited to all water use calculations for the various uses listed*

Parcel Location Factors

The allowable allotment of water is based on the location of your parcel. Valley floor areas include all locations on the floor of the Napa Valley and Carneros Basin except for groundwater deficient areas. Groundwater deficient areas are areas that have been determined by the Department of Public Works as having a history of problems with groundwater. All other areas are classified as Mountain Areas. Public Works can assist you in determining your classification.

Parcel Location Factors	
Valley Floor	1.0 acre foot per acre per year
Mountain Areas	0.5 acre foot per acre per year
Groundwater Deficient Area (MST)	0.3 acre foot per acre per year

Guidelines For Estimating Water Usage:

Residential:	
Single Family Residence	0.5 acre-foot per year
Farm Labor Dwelling	1.0 acre-foot per year (6 people)
Second Unit	0.4 acre-foot per year
Guest Cottage	0.1 acre-foot per year
Winery:	
Process Water	2.15 acre-foot per 100,000 gal. of wine
Domestic and Landscaping	0.50 acre-foot per 100,000 gal. of wine
Commercial:	
Office Space	0.01 acre-foot per employee per year
Warehouse	0.05 acre-foot per employee per year
Agricultural:	
Vineyards	
Irrigation only	0.2 to 0.5 acre-foot per acre per year
Heat Protection	0.25 acre foot per acre per year
Frost Protection	0.25 acre foot per acre per year
Irrigated Pasture	4.0 acre-foot per acre per year
Orchards	4.0 acre-foot per acre per year
Livestock (sheep or cows)	0.01 acre-foot per acre per year
Landscaping:	
Landscaping	1.5 acre-foot per acre per year