

MAY 29

Terra Firma Surveys, Inc.
P.O. Box 533
St. Helena California 94574

Phone: (707) 963-7565

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LETTER OF TRANSMITTAL

TO: Jeannette Doss
Napa County Department of Public Works
1195 Third Street, Suite 201
Napa CA 94559

DATE: May 28, 2009

CC: Mary Doyle
Napa County Conservation, Development and Planning Department
1195 Third Street, Suite 210
Napa CA 94559

FROM: Christopher K. Cole *CKC*

RE: **Water Availability Analysis: Phase I Study** (for proposed parcels)

Tentative Parcel Map: P09-00150
Lands of Markham Vineyards
APN: 027-411-001 86.2 acres
Napa Nook Road, Yountville

First American Title Company Order No. T0011373

ENCLOSED:

- Water Availability Analysis: Phase I Study for the two proposed parcels.
- Site Location Map (USGS)
- Tentative Parcel Map (reduced to 8 ½"x11")

COMMENTS:

As requested, enclosed are analyses for the proposed parcels.

Please call if you have any questions.

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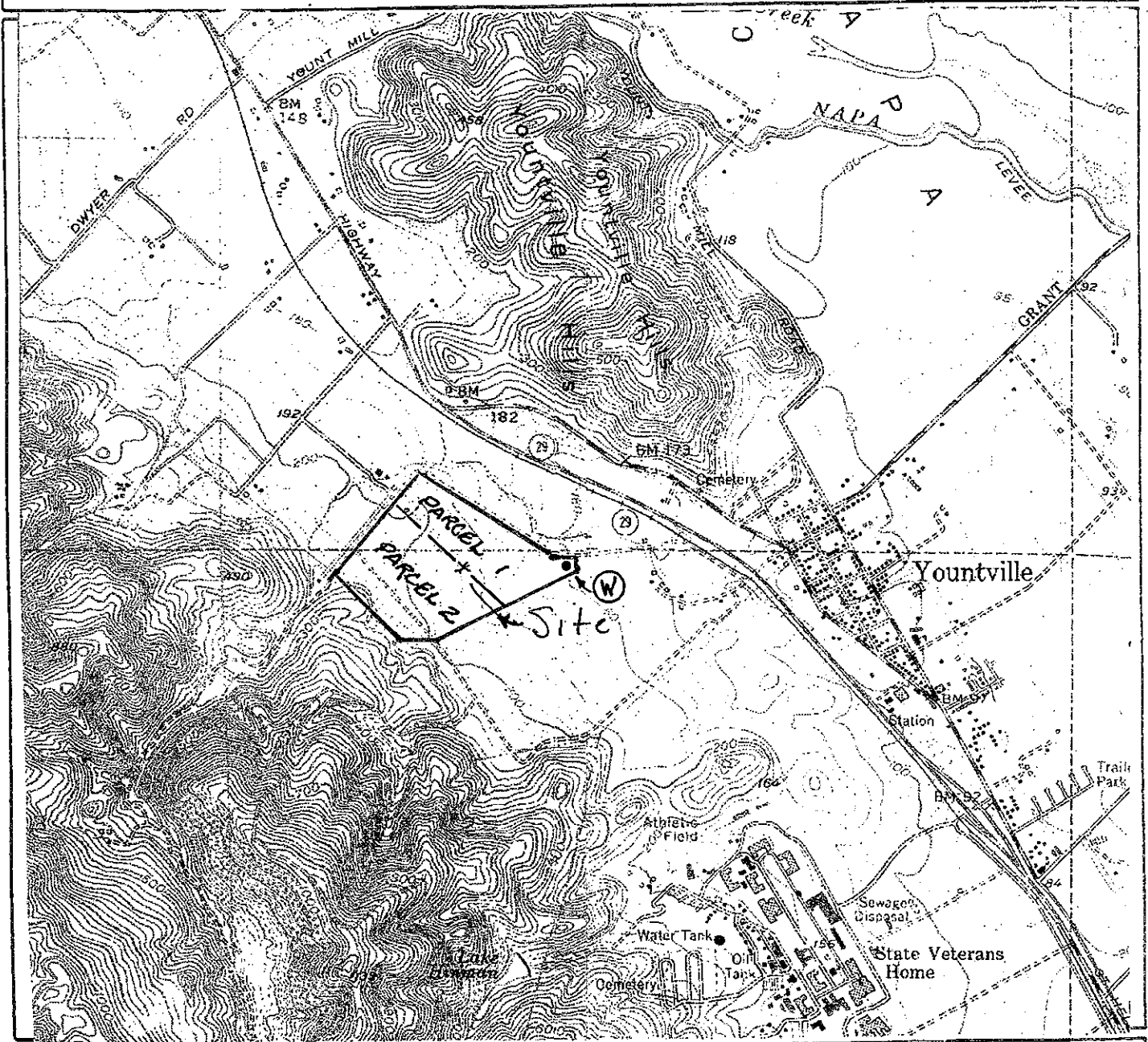
NAPA CO. CONSERVATION
DEVELOPMENT & PLANNING DEPT.

U.S. GEOLOGICAL SURVEY (USGS) TOPOGRAPHIC SITE LOCATION MAP

GEOLOGICAL SURVEY
QUADRANGLE TITLE:

Rutherford, CA

FILE NO. _____



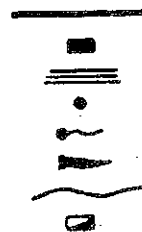
LEGEND

The following information shall be shown on the topographic map:

- Parcel Boundary _____
- Structure _____
- Septic System _____
- Well _____
- Spring _____
- Reservoir _____
- Road _____
- Parking Lot or _____
- Outdoor Storage Area _____

Existing

Proposed

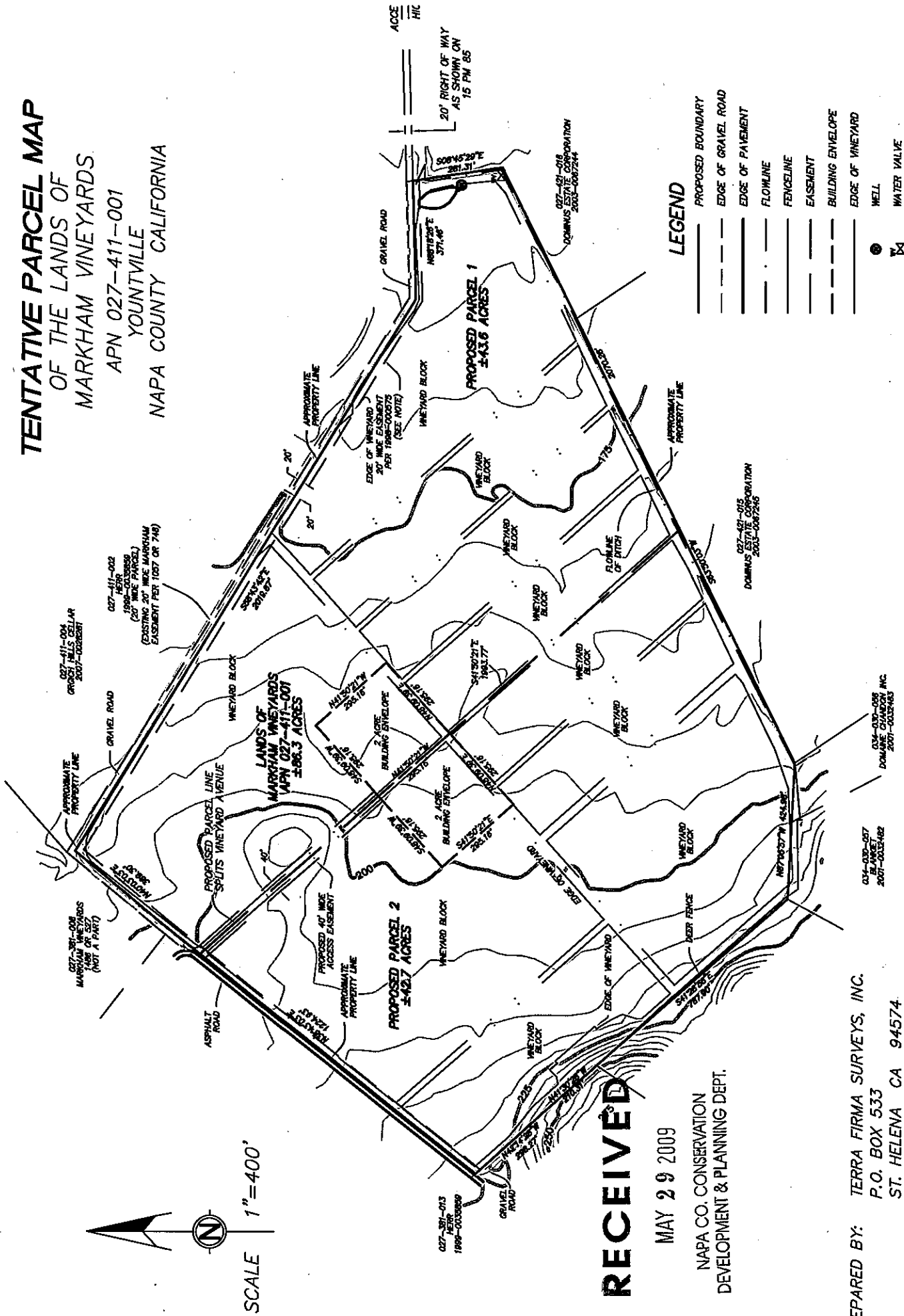


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TENTATIVE PARCEL MAP OF THE LANDS OF MARKHAM VINEYARDS APN 027-411-001 YOUNTVILLE NAPA COUNTY CALIFORNIA



LEGEND

- PROPOSED BOUNDARY
- EDGE OF GRAVEL ROAD
- EDGE OF PAVEMENT
- FLOWLINE
- FENCELINE
- EASEMENT
- BUILDING ENVELOPE
- EDGE OF VINEYARD
- WELL
- WATER VALVE

SCALE 1"=400'

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PREPARED BY: TERRA FIRMA SURVEYS, INC.
P.O. BOX 533
ST. HELENA CA 94574
PHONE: (707) 963-7565

DATE: May 2009

5/28/2009
752_TPM.dwg
SHEET 1 OF 1



NAPA COUNTY

DEPARTMENT OF PUBLIC WORKS

1195 THIRD STREET • ROOM 201 • NAPA, CALIFORNIA 94559-3092
PHONE 707-253-4351 • FAX 707-253-4627
www.co.napa.ca.us/PublicWorks/Default.htm

ROBERT J. PETERSON
Director of Public Works
County Surveyor-County Engineer
Road Commissioner

Proposed Parcel 1

WATER AVAILABILITY ANALYSIS

PHASE 1 STUDY

Introduction: As an applicant for a permit with Napa County, It has been determined that Chapter 13.15 of the Napa County Code is applicable to approval of your permit. One step of the permit process is to adequately evaluate the amount of water your project will use and the potential impact your application might have on the static groundwater levels within your neighborhood. The public works department requires that a Phase 1 Water Availability Analysis (WAA) be included with your application. The purpose of this form is to assist you in the preparation of this analysis. You may present the analysis in an alternative form so long as it substantially includes the information required below. Please include any calculations you may have to support your estimates.

The reason for the WAA is for you, the applicant, to inform us, to the best of your ability, what changes in water use will occur on your property as a result of an approval of your permit application. By examining the attached guidelines and filling in the blanks, you will provide the information we require to evaluate potential impacts to static water levels of neighboring wells.

Step #1:

Provide a map and site plan of your parcel(s). The map should be an 8-1/2"x11" reproduction of a USGS quad sheet (1:24,000 scale) with your parcel outlined on the map. Include on the map the nearest neighboring well. The site plan should be 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. If more than one water source is available, indicate the interconnecting piping from the subject well to the areas of use. Attach these two sheets to your application. If multiple parcels are involved, clearly show the parcels from which the fair share calculation will be based and properly identify the assessors parcel numbers for these parcels. Identify all existing or proposed wells.

Step #2: Determine total parcel acreage and water allotment factor. If your project spans multiple parcels, please fill a separate form for each parcel.

Determine the allowable water allotment for your parcels:

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DEVELOPMENT & PLANNING DEPT.

Parcel Location Factors

The allowable allotment of water is based on the location of your parcel.

There are 3 different location classifications. Valley floor areas include all locations that are within the Napa Valley, Pope Valley and Carneros Region, except for areas specified as groundwater deficient areas. Groundwater deficient areas are areas that have been determined by the public works department as having a history of problems with groundwater. All other areas are classified as Mountain Areas. Please circle your location classification below (Public Works can assist you in determining your classification if necessary):

Valley Floor 1.0 acre feet per acre per year
Mountain Areas 0.5 acre feet per acre per year
MST Groundwater Deficient Area 0.3 acre feet per acre per year

Assessors Number(s)	Parcel Size (A)	Parcel Factor (B)	Location	Allowable Water Allotment (A) X (B)
Existing APN 027-411-001 Proposed Parcel 1	43.6 Ac.	1.0		43.6 Ac.ft./yr

Step #3:

Using the guidelines in Attachment A, tabulate the existing and projected future water usage on the parcel(s) in acre-feet per year (af/yr). Transfer the information from the guidelines to the table below.

EXISTING USE:

Residential 0 af/yr
Farm Labor Dwelling 0 af/yr
Winery 0 af/yr
Commercial 0 af/yr
Vineyard* 8.0 af/yr
Other Agriculture 0 af/yr
Landscaping 0 af/yr
Other Usage (List Separately):
____ af/yr
____ af/yr
____ af/yr

PROPOSED USE:

Residential 0 af/yr
Farm Labor Dwelling 0 af/yr
Winery 0 af/yr
Commercial 0 af/yr
Vineyard* 8.0 af/yr
Other Agriculture 0 af/yr
Landscaping 0 af/yr
Other Usage (List Separately):
____ af/yr
____ af/yr
____ af/yr

TOTAL: 8.0 af/yr

TOTAL: 2,606,568 gallons**

TOTAL: 8.0 af/yr

TOTAL: 2,606,568 gallons**

*Water use for vineyards should be no lower than 0.2 AF—unless irrigation records are available that show otherwise.

**To determine your existing and proposed total water use in gallons; multiply the totals (in acre- feet) by 325,821 gal/AF.

Is the proposed use less than the existing usage () Yes () No (✓) Equal

Step #4:

Provide any other information that may be significant to this analysis. For example, any calculations supporting your estimates, well test information including draw down over time, historical water data, visual observations of water levels, well drilling information, changes in neighboring land uses, the usage of other water sources such as city water or reservoirs, the timing of the development, etc. Use additional sheets if necessary.

Conclusion: Congratulations! Just sign the form and you are done! Public works staff will now compare your projected future water usage with a threshold of use as determined for your parcel(s) size, location, topography, rainfall, soil types, historical water data for your area, and other hydrogeologic information. They will use the above information to evaluate if your proposed project will have a detrimental effect on groundwater levels and/or neighboring well levels. Should that evaluation result in a determination that your project may adversely impact neighboring water levels, a phase two water analysis may be required. You will be advised of such a decision.

Signature: Christopher K. Cole Date: May 28, 2009 Phone: 963-7565

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Attachment A: Estimated Water Use Guidelines

Typical Water Use Guidelines:

Primary Residence	0.5 to 0.75 acre-feet per year (includes some landscaping)
Secondary Residence	0.20 to 0.30 acre-feet per year
Farm Labor Dwelling	0.06 to 0.10 acre-feet per person per year

Non-Residential Guidelines:

Agricultural:

Vineyards	
Irrigation only	0.2 to 0.5 acre-feet per acre per year
Heat Protection	0.25 acre feet per acre per year
Frost Protection	0.25 acre feet per acre per year
Farm Labor Dwelling	0.06 to 0.10 acre-feet per person per year
Irrigated Pasture	4.0 acre-feet per acre per year
Orchards	4.0 acre-feet per acre per year
Livestock (sheep or cows)	0.01 acre-feet per acre per year

Winery:

Process Water	2.15 acre-feet per 100,000 gal. of wine
Domestic and Landscaping	0.50 acre-feet per 100,000 gal. of wine

Industrial:

Food Processing	31.0 acre-feet per employee per year
Printing/Publishing	0.60 acre-feet per employee per year

Commercial:

Office Space	0.01 acre-feet per employee per year
Warehouse	0.05 acre-feet per employee per year



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ROBERT J. PETERSON
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Road Commissioner

Proposed Parcel 2

WATER AVAILABILITY ANALYSIS

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MST Groundwater Deficient Area 0.3 acre feet per acre per year

Assessors Number(s)	Parcel	Parcel Size (A)	Parcel Factor (B)	Location	Allowable Water Allotment (A) X (B)
Existing APN 027-411-001		42.7	1.0		42.7 Ac. ft./yr
proposed Parcel 2					

Step #3:

Using the guidelines in Attachment A, tabulate the existing and projected future water usage on the parcel(s) in acre-feet per year (af/yr). Transfer the information from the guidelines to the table below.

EXISTING USE:

Residential 0 af/yr
Farm Labor Dwelling 0 af/yr
Winery 0 af/yr
Commercial 0 af/yr
Vineyard* 7.6 af/yr
Other Agriculture 0 af/yr
Landscaping 0 af/yr
Other Usage (List Separately):
____ af/yr
____ af/yr
____ af/yr

PROPOSED USE:

Residential 0 af/yr
Farm Labor Dwelling 0 af/yr
Winery 0 af/yr
Commercial 0 af/yr
Vineyard* 7.6 af/yr
Other Agriculture 0 af/yr
Landscaping 0 af/yr
Other Usage (List Separately):
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____ af/yr
____ af/yr

TOTAL: 7.6 af/yr
TOTAL: 2,476,239 gallons**

TOTAL: 7.6 af/yr
TOTAL: 2,476,239 gallons**

*Water use for vineyards should be no lower than 0.2 AF—unless irrigation records are available that show otherwise.

**To determine your existing and proposed total water use in gallons, multiply the totals (in acre- feet) by 325,821 gal/AF.

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