BALANCED PLANNING, INC

TO: LINDA ST. CLAIRE, CHARLENE GALLINA

FROM: BETH PAINTER

SUBJECT: LARKMEAD WINERY USE PERMIT MODIFICATION

DATE: APRIL 19, 2012

CC: DAN PETROSKI, JOHN TAFT, BEN MONROE

Linda and Charlene:

Enclosed are revised site plans and application materials for the Larkmead project. The changes are relatively minor and include:

1. Removal of parking spaces from within 20' setback
2. Revision to project statement and application to request that the proposed employee break room also serve as a staging area for caterers. The staging area will be designed to commercial standards but will only be used by catering food service.
3. Addition of fire truck turn area on the west side of the new barrel building.
4. Reduction of new parking to 5 additional spaces rather than the originally proposed 10 spaces.

Included are:

One copy of revised project statement and application form

One copy of each revised plan at 8.5" x 11" and 11" x 17"

5 full size (24" x 36") of revised site plans

Thanks for your assistance with this project.

RECEIVED
APR 19 2012
NAPA CO. CONSERVATION
DEVELOPMENT & PLANNING DEF

1455 First Street, Suite 217 Napa, Ca 94559
Phone: (707) 287-9089 e-mail: beth@bpnapa.com

USE PERMIT MODIFICATION: PROJECT STATEMENT
Larkmead Winery
1100 Larkmead Lane, Calistoga

APPLICANT/OWNER
Larkmead Vineyards
General Manager, Colin MacPhail
1100 Larkmead Lane
Calistoga, CA 94515

APPLICANT/OWNER REPRESENTATIVE:
Beth Painter
Balanced Planning
1455 First Street Suite 217
Napa, CA 94559

APN: 020-240-001 ACREAGE: 17.85 ± acres

GENERAL PLAN DESIGNATION: AR, Agricultural Resource

ZONING DESIGNATION: AP, Agricultural Preserve

GENERAL PROJECT DESCRIPTION:

In 2004, a Use Permit to establish a 36,000 gallon per year winery (#P04-0204-UP) was approved for this property. The Use Permit allows for 36,000 gallons per year of wine production. The winery consists of a production building with a covered crush area and a separate building for winery office and hospitality use. The winery was constructed as planned and first harvest at the facility occurred in 2005.

The primary purpose of this modification is to request approval for an additional 9,530 square foot winery building. The original design included a single production building to house both stainless steel tanks and oak barrels. The wine making process has been limited by this consolidated plan and the owner is proposing a new building dedicated to barrel storage, thereby creating additional area for tank space in the original winery building. This will allow the winemaker space to separate wines by tank in a manner that cannot be accomplished with their limited area and will add the barrel space needed for the full 36,000 gallons of production. The new barrel building will also include a tasting/conference room, wine library, small employee break room/catering kitchen and additional rest rooms. The proposed kitchen will primarily serve as an employee break room. The kitchen will be designed and permitted as a commercial kitchen to provide a staging area for catering services for events and food pairings associated with private tours as allowed for in the Zoning Code definition of tours and tasting (18.08. 620). The food for events and tastings would not be prepared onsite, but would be provided by a catering company. The

septic feasibility report provided with this modification request recognizes the additional septic capacity required for this catered food service. There is no change proposed to the size or frequency of marketing events. The only change to the existing winery building will be to expand tank storage into the existing barrel storage area. The separate winery office and hospitality building will remain unchanged.

A site plan has been prepared showing the existing winery buildings and the proposed new barrel building. There is no change to the entrance driveway, however 5 additional parking spaces will be added over the 10 spaces approved with the Use Permit, for a total of 15 onsite spaces with two of them being handicapped accessible.

A comprehensive Civil/Architectural design package is included with this modification request. The approved and proposed buildings and all added parking are shown on the site plan and further described in the application materials. The proposed location for the new barrel building is directly behind the existing production building. The single access road off Larkmead Lane and loop driveway under the crush pad area will remain unchanged. Additional parking will be provided on the north side of the winery building and new barrel building. Hammerhead turn areas will be added on each side of the crush pad. The new barrel building will be landscaped to complement the existing winery building.

Both the original winery and the new barrel building have been designed by Backen Gillam Kroeger Architects. The barrel building will be will be very similar in design to the existing winery building, a local stone base with board and batten siding. The roof will be a galvanized, corrugated metal roof typical of a local barn style structure. All materials will be non-reflective.

Larkmead Vineyards have made a significant effort in the area of sustainable design and have implemented environmental measures that have a direct correlation to overall GHG emission reduction goals as outlined in the draft Climate Action Plan (CAP). The CAP, although not yet formally adopted, is expected to set project level targets for GHG emission reductions. The CAP is expected to recognize and credit efforts at the individual site level that were installed on or after 2005. Extensive solar facilities were installed on the existing winery building that provide for energy efficiencies that go beyond Title 24 requirements and will be eligible for credit under the draft CAP. Larkmead is certified as a Green Business (Napa Green Certified Winery) and was verified as carbon neutral through the PG&E ClimateSmart program. The new barrel building will also include solar facilities to retain these certifications. In addition to solar facilities, Larkmead has undertaken other GHG emission reduction measures such as high efficiency irrigation and other water conservation measures within the landscape design, on-site waste water disposal, infiltration methods for post-construction storm water. A summary of the voluntary measures that have been completed with the existing winery and are also planned for the addition are summarized on the Checklist of Voluntary GHG Reduction Measure.

file № _____

A Tradition of Stewardship
A Commitment to Service

Napa County
Conservation, Development, and Planning Department
1195 Third Street, Suite 210, Napa, California, 94559 *phone* (707) 253-4417
web www.countyofnapa.org/cdp/ *email* cdp@countyofnapa.org

Use Permit Application

To be completed by Planning staff...

Application Type: _____

Date Submitted: _____ Resubmittal(s): _____ Date Complete: _____

Request: _____

*Application Fee Deposit: $_____ Receipt No. _____ Received by: _____ Date: _____

**Total Fees will be based on actual time and materials*

To be completed by applicant...

Project Name: Larkmead Vineyards

Assessor's Parcel №: 020-240-001 Existing Parcel Size: 17.85 ac.

Site Address/Location: 1100 Larkmead Lane (No. / Street) Calistoga (City) CA (State) 94515 (Zip)

Primary Contact: ☐ Owner ☐ Applicant ☑ Representative (attorney, engineer, consulting planner, etc.)

Property Owner: Larkmead Vineyards Contact: General Manager, Colin MacPhail

Mailing Address: 1100 Larkmead Lane (No. / Street) Calistoga (City) CA (State) 94515 (Zip)

Telephone №(707) 942 - 0167 E-Mail: colin@larkmead.com

Applicant (if other than property owner): SAME

Mailing Address: _____ (No. / Street) _____ (City) _____ (State) _____ (Zip)

Telephone №(_____) _____ - _____ E-Mail: _____

Representative (if applicable): Beth Painter

Mailing Address: 1455 First Street, Suite 217 (No. / Street) Napa (City) CA (State) 94559 (Zip)

Telephone №(707) 287 - 9089 E-Mail: beth@bpnapa.com

Use Permit Information Sheet

Use

Narrative description of the proposed use (please attach additional sheets as necessary):

The Use Permit for the existing winery was approved September, 2004 for construction of a 36,000 gallon per year winery within 2 separate buildings and a covered crush area. The winery has was constructed as planned but has undertaken a revision to the production program, requiring additional tank and barrel storage area. The proposed plan includes the construction of a 9,530 square foot building dedicated to barrel storage and conversion of the existing production building to tank storage. A portion of the new barrel building will include a tasting and conference room, wine library, rest rooms and a break room/catering kitchen.

There is no change to the annual production or marketing plan. However, information has been included for water and wastewater analysis to demonstrate that the winery has been functioning as planned for the approved production capacity.

What, if any, additional licenses or approvals will be required to allow the use?

District_____ Regional _____

State _____ Federal _____

Improvements

Narrative description of the proposed on-site and off-site improvements (please attach additional sheets as necessary):

Access to the winery off Larkmead Lane will remain unchanged. The onsite winery driveway will be extended on the north side of the existing winery building to provide vehicular access to the new barrel building. Ten new parking spaces will be provided on the north side of the building. The water tank will be relocated as shown on the site plan. Water and wastewater systems will not require expansion, but a wastewater feasibility report has been included.

Improvements, cont.

Total on-site parking spaces: 10 existing 15 proposed

Loading areas: 1 existing 1 proposed

Fire Resistivity (check one; if not checked, Fire Marshal will assume Type V – non rated):

☐ Type I FR ☐ Type II 1 Hr ☐ Type II N (non-rated) ☐ Type III 1 Hr ☐ Type III N

☐ Type IV H.T. (Heavy Timber) ☐ Type V 1 Hr. ☑ Type V (non-rated)

(for reference, please see the latest version of the California Building Code)

Is the project located in an Urban/Wildland Interface area? ☐ Yes ☑ No

Total land area to be disturbed by project (include structures, roads, septic areas, landscaping, etc): _____ acres

Employment and Hours of Operation

Days of operation: 7 days existing no change proposed

Hours of operation: 7 a.m. - 6 p.m. existing no change proposed

Anticipated number of employee shifts: 1 existing no change proposed

Anticipated shift hours: 8 hours existing no change proposed

Maximum Number of on-site employees:

☑ 10 or fewer ☐ 11-24 ☐ 25 or greater (specify number) _____

Alternately, you may identify a specific number of on-site employees:

☐ other (specify number) _____

Certification and Indemnification

Applicant certifies that all the information contained in this application, including all information required in the Checklist of Required Application Materials and any supplemental submitted information including, but not limited to, the information sheet, water supply/waste disposal information sheet, site plan, floor plan, building elevations, water supply/waste disposal system site plan and toxic materials list, is complete and accurate to the best of his/her knowledge. Applicant and property owner hereby authorize such investigations including access to County Assessor's Records as are deemed necessary by the County Planning Division for preparation of reports related to this application, *including the right of access to the property involved.*

Pursuant to Chapter 1.30 of the Napa County Code, as part of the application for a discretionary land use project approval for the project identified below, Applicant agrees to defend, indemnify, release and hold harmless Napa County, its agents, officers, attorneys, employees, departments, boards and commissions (hereafter collectively "County") from any claim, action or proceeding (hereafter collectively "proceeding") brought against County, the purpose of which is to attack, set aside, void or annul the discretionary project approval of the County, or an action relating to this project required by any such proceeding to be taken to comply with the California Environmental Quality Act by County, or both. This indemnification shall include, but not be limited to damages awarded against the County, if any, and cost of suit, attorneys' fees, and other liabilities and expenses incurred in connection with such proceeding that relate to this discretionary approval or an action related to this project taken to comply with CEQA whether incurred by the Applicant, the County, and/or the parties initiating or bringing such proceeding. Applicant further agrees to indemnify the County for all of County's costs, attorneys' fees, and damages, which the County incurs in enforcing this indemnification agreement.

Applicant further agrees, as a condition of project approval, to defend, indemnify and hold harmless the County for all costs incurred in additional investigation of or study of, or for supplementing, redrafting, revising, or amending any document (such as an EIR, negative declaration, specific plan, or general plan amendment) if made necessary by said proceeding and if the Applicant desires to pursue securing approvals which are conditioned on the approval of such documents.

In the event any such proceeding is brought, County shall promptly notify the Applicant of the proceeding, and County shall cooperate fully in the defense. If County fails to promptly notify the Applicant of the proceeding, or if County fails to cooperate fully in the defense, the Applicant shall not thereafter be responsible to defend, indemnify, or hold harmless the County. The County shall retain the right to participate in the defense of the proceeding if it bears its own attorneys' fees and costs, and defends the action in good faith. The Applicant shall not be required to pay or perform any settlement unless the settlement is approved by the Applicant.

Katharine S. Baker	
Print Name of Property Owner	Print Name Signature of Applicant (if different)
Kath S Baker, President 3/17/12	
Signature of Property Owner Date	Signature of Applicant Date

Operations

Please indicate whether the activity or uses below are already legally **EXISTING**, whether they exist and are proposed to be **EXPANDED** as part of this application, whether they are **NEWLY PROPOSED** as part of this application, or whether they are neither existing nor proposed (**NONE**).

Retail Wine Sales	☑ Existing	☐ Expanded	☐ Newly Proposed	☐ None
Tours and Tasting- Open to the Public	☐ Existing			
Tours and Tasting- By Appointment	☑ Existing	☐ Expanded	☐ Newly Proposed	☐ None
Food at Tours and Tastings	☐ Existing	☐ Expanded	☑ Newly Proposed	☐ None
Marketing Events*	☑ Existing	☐ Expanded	☐ Newly Proposed	☐ None
Food at Marketing Events	☑ Existing	☐ Expanded	☐ Newly Proposed	☐ None
Will food be prepared...	☐ On-Site?	☑ Catered?		
Public display of art or wine-related items	☐ Existing	☐ Expanded	☐ Newly Proposed	☐ None

** For reference please see definition of "Marketing," at Napa County Code §18.08.370* - http://library.municode.com/index.aspx?clientId=16513

Production Capacity *

Please identify the winery's...

Existing production capacity: 36,000 gal/y Per permit №: #P04-0204 Permit date: Sept. 1, 2004

Current maximum actual production: 24,000 gal/y For what year? 2011

Proposed production capacity: 36,000 gal/y

** For this section, please see "Winery Production Process," at page 11.*

Visitation and Hours of Operation

Please identify the winery's...

Maximum daily tours and tastings visitation:	40/day existing	no change proposed
Average daily tours and tastings visitation[1]:	120 per week existing	no change proposed
Visitation hours (e.g. M-Sa, 10am-4pm):	10 am-4:30 pm existing	9 am-6:00 pm proposed
Non-harvest Production hours[2]:	7 a.m - 6 p.m. existing	no change proposed

[1] Average daily visitation is requested primarily for purposes of environmental review and will not, as a general rule, provide a basis for any condition of approval limiting allowed winery visitation.
[2] It is assumed that wineries will operate up to 24 hours per day during crush.

Grape Origin

All new wineries and any existing (pre-WDO) winery expanding beyond its winery development area must comply with the 75% rule and complete the attached "Initial Statement of Grape Source". See Napa County Code §18.104.250 (B) & (C).

Marketing Program

Please describe the winery's proposed marketing program. Include event type, maximum attendance, food service details, etc. Differentiate between existing and proposed activities. (Attach additional sheets as necessary.)

No change from approved level of marketing programs:
3 events per month for a maximum of 25 persons
2 events per year for a maximum of 120 persons (not including Napa Valley Wine Auction events)

Food Service

Please describe the nature of any proposed food service including type of food, frequency of service, whether prepared on site or not, kitchen equipment, eating facilities, etc. Please differentiate between existing and proposed food service. (Attach additional sheets as necessary.)

Tours and tasting may include food as allowed for in Section 18.08.620 of the Napa County Code. The winery will not include a commercial kitchen, therefore food service for marketing events and tours and tasting would be provided from a catering service only. The new employee break room will be designed and permitted to also serve as a staging area for catering service. Tours and tasting may include the sale of wine as authorized under AB 2004.

Winery Coverage and Accessory/Production Ratio

Winery Development Area. Consistent with the definition at "a.," at page 11 and with the marked-up site plans included in your submittal, please indicate your proposed winery development area. If the facility already exists, please differentiate between existing and proposed.

Existing 40,373 sq. ft. 0.93 acres

Proposed 62,426 sq. ft. 1.43 acres

Winery Coverage. Consistent with the definition at "b.," at page 11 and with the marked-up site plans included in your submittal, please indicate your proposed winery coverage (maximum 25% of parcel or 15 acres, whichever is less).

23,910 sq. ft. 0.55 acres 3.08 % of parcel

Production Facility. Consistent with the definition at "c.," at page 11 and the marked-up floor plans included in your submittal, please indicate your proposed *production* square footage. If the facility already exists, please differentiate between existing and proposed.

Existing 7,562 sq. ft. Proposed 15,843 sq. ft.

Accessory Use. Consistent with the definition at "d.," at page 11 and the marked-up floor plans included in your submittal, please indicate your proposed *accessory* square footage. If the facility already exists, please differentiate between existing and proposed. (maximum = 40% of the production facility)

Existing 3,420 sq. ft. 31.1 % of production facility

Proposed 4,670 sq. ft. 22.8 % of production facility

Caves and Crushpads

If new or expanded caves are proposed please indicate which of the following best describes the public accessibility of the cave space:

☐ None – no visitors/tours/events (**Class I**) ☐ Guided Tours Only (**Class II**) ☐ Public Access (**Class III**)

☐ Marketing Events and/or Temporary Events (**Class III**)

Please identify the winery's...

Cave area	Existing: _____ sq. ft.	Proposed: _____ sq. ft.
Covered crush pad area	Existing: 1,277 sq. ft.	Proposed: no change sq. ft.
Uncovered crush pad area	Existing: _____ sq. ft.	Proposed: _____ sq. ft.

Water Supply/ Waste Disposal Information Sheet

Water Supply

Please attach completed Phase I Analysis sheet.

	Domestic	Emergency
Proposed source of water (e.g., spring, well, mutual water company, city, district, etc.):	well	well
Name of proposed water supplier (if water company, city, district):	n/a	n/a
Is annexation needed?	☐ Yes ☑ No	☐ Yes ☑ No
Current water use:	1,550 gallons per day (gal/d)	
Current water source:	well	well
Anticipated future water demand:	1,595 gal/d	1,595 gal/d
Water availability (in gallons/minute):	120 gal/m	120 gal/m
Capacity of water storage system:	10,500 gal	25,000 gal
Type of emergency water storage facility if applicable (e.g., tank, reservoir, swimming pool, etc.):	tank	

Liquid Waste

Please attach Septic Feasibility Report

	Domestic	Other
Type of waste:	sewage	process waste
Disposal method (e.g., on-site septic system, on-site ponds, community system, district, etc.):	on-site septic	on-site septic
Name of disposal agency (if sewage district, city, community system):	n/a	n/a
Is annexation needed?	☐ Yes ☑ No	☐ Yes ☑ No
Current waste flows (peak flow):	345 gal/d	1,200 gal/d
Anticipated future waste flows (peak flow):	395 gal/d	1,200 gal/d
Future waste disposal design capacity:	413 gal/d	1,200 gal/d

Solid Waste and Recycling Storage and Disposal

Please include location and size of solid waste and recycling storage area on site plans in accordance with the guidelines available at www.countyofnapa.org/dem.

Hazardous and/or Toxic Materials

If your facility generates hazardous waste or stores hazardous materials above threshold planning quantities (55 gallons liquid, 500 pounds solid or 200 cubic feet of compressed gas) then a hazardous materials business plan and/or a hazardous waste generator permit will be required.

Grading Spoils Disposal

Where will grading spoils be disposed of?
(e.g. on-site, landfill, etc. If off-site, please indicate where off-site): spread in onsite vineyard or landfilled by Napa Sanitation

Initial Statement of Grape Source

Pursuant to Napa County Zoning Ordinance Sections 12419(b) and (c),
I hereby certify that the current application for establishment or expansion of a winery pursuant to the Napa County Winery Definition Ordinance will employ sources of grapes in accordance with the requirements of Section 12419(b) and/or (c) of that Ordinance.

Kathy Baker, President 3/17/12

Owner's Signature **Date**

Letters of commitment from grape suppliers and supporting documents may be required prior to issuance of any building permits for the project. Recertification of compliance will be required on a periodic basis. Recertification after initiation of the requested wine production may require the submittal of additional information regarding individual grape sources. Proprietary information will not be disclosed to the public.

Larkmead Vineyards
Barrel Hall Use Permit
March 21, 2012

Winery Coverage Accessory Production Ratio

USE	AREA (SQUARE FEET)	WINERY COVERAGE (SQUARE FEET)	OTHER WINERY DEVELOPMENT (SQUARE FEET)	PRODUCTION USE (SQUARE FEET)	ACCESSORY USE (SQUARE FEET)
EXISTING					
PRODUCTION BUILDINGS	4938	4938		4938	
TASTING ROOM	2650	2650			2650
TASTING ROOM PARKING	3282		3282		
TASTING ROOM PATHWAYS	5645		5,645		
DRIVEWAY	19877		19,877		
BBQ	410		410		410
WINE LAB	224	224		224	
OFFICES	360	360			360
COVERED CRUSH PAD	1277	1,277		1277	
TRASH ENCLOSURE	535	535		535	
EQUIPMENT	588	588		588	
WATER TANK	587	587			
GARDEN SHED	144				
WALKWAY	212		212		
TOTAL EXISTING (SF):		**11,159**	**29,214**	**7,562**	**3,420**
TOTAL EXISTING (ACRE):		**0.26**	**0.67**	**0.17**	**0.08**
TOTAL EXISTING WINERY BUIDLINGS (SF)					**10,982**
EXISTING ACCESSORY TO PRODUCTION RATIO					**31.1%**

TOTAL WINERY DEVELOPMENT AREA:	**0.93 ACRES**
TOTAL WINERY DEVELOPMENT AREA:	**40,373 SF**
TOTAL WINERY COVERAGE:	**11,159 SF**
TOTAL WINERY COVERAGE:	**0.26 ACRES**
EXISTING WINERY COVERAGE OF PARCEL:	**1.44 %**
EXISTING WINERY DEVELOPMENT OF PARCEL:	**5.19 %**
PARCEL SIZE	**17.85 ACRES**
PARCEL SIZE	**777,546 SF**

Larkmead Vineyards
1100 Larkmead Lane
Calistoga, Ca
APN: 020-240-001
April 13, 2012

USE	AREA (SQUARE FEET)	WINERY COVERAGE (SQUARE FEET)	OTHER WINERY DEVELOPMENT (SQUARE FEET)	PRODUCTION USE (SQUARE FEET)	ACCESSORY USE (SQUARE FEET)
PROPOSED					
ACCESS WALK	500	500			
BREAK ROOM	200	200			200
WINE STORAGE	200	200		200	
WINE LIBRARY	222	222		222	
TASTING/CONFERENCE ROOM	1050	1,050			1050
TASTING/CONFERENCE WALKWAYS	1280	1,280			
EMPLOYEE PARKING WEST		0			
DRIVEWAY	3565		3,565		
ACCESSIBLE EMPLOYEE PARKING	252	252			
EMPLOYEE PARKING EAST	1188	1,188			
ACCESS WALKWAY	5737		5,737		
PRODUCTION BUILDINGS	7859	7,859		7859	
TOTAL PROPOSED (SF):		**12,751**	**9,302**	**8281**	**1,250**
TOTAL PROPOSED (ACRE):		**0.29**	**0.21**	**0.19**	**0.03**
TOTAL WINERY BUILDINGS - EXISTING AND PROPOSED (SF)				**15,843**	**4,670**
TOTAL WINERY BUILDINGS - EXISTING AND PROPOSED (ACRES)				**0.36**	**0.11**
PROPOSED ACCESSORY TO PRODUCTION RATIO					**22.8%**

EXISTING AND PROPOSED	
TOTAL WINERY DEVELOPMENT AREA:	**1.43 ACRES**
TOTAL WINERY DEVELOPMENT AREA:	**62,426 SF**
TOTAL WINERY COVERAGE:	**23,910 SF**
TOTAL WINERY COVERAGE:	**0.55 ACRES**
PROPOSED WINERY COVERAGE OF PARCEL:	**3.08 %**
PROPOSED WINERY DEVELOPMENT OF PARCEL:	**8.03 %**

12501.0 Larkmead Barrel Hall
Water System Feasibility
March 21, 2012
Revised: May 18, 2012

Always Engineering, Inc
2360 Professional Drive
Santa Rosa, CA 95403
(707) 542-8795

May 18, 2012

Steve Lederer
Director
Napa County
Department of Environmental Management
1195 3rd Street, Room 101
Napa, Ca 94559

Project: Larkmead Vineyards
Use Permit Modification
Water System Feasibility
APN 020-240-001

Dear Mr. Lederer,

As required by the Napa County Department of Conservation Planning, and Development, this letter provides information regarding Public Water System Feasibility as a supplement to the Larkmead Vineyards Use Permit request. The following information is provided to meet this requirement.

Larkmead Vineyards, located at 1100 Larkmead Lane in Calistoga, Napa County, California (APN 020-240-001) is applying for a use permit to expand the existing winery by constructing a new barrel storage building as well as additional site upgrades. No increase in wine production, tasting visitors, or hospitality is proposed. The winery will add an additional six (6) full-time and four (4) part-time employees.

The site has an existing Public Water System Permit (CA2800044) which is operated by the owner. The existing system will be expanded to meet the needed potable water supply points within the proposed barrel building and tasting/conference room. The existing demand is not expected to increase due to no change in site level of use, just relocation of use. The existing site well flow rate is 120 gallons per minute, which is capable producing the entire daily potable demand of 395 gpd in a period of 3.3 minutes.

The proposed modification to the site is not expected to affect the ability for the existing public water system to meet the demands of the site.

Please feel free to contact me with questions or comments.

Sincerely,

Ben Monroe, P.E.
Always Engineering, Inc.

cc: Dan Petroski (Larkmead Vineyards)
Beth Painter (Balanced Planning)

12501.0 Larkmead Barrel Building
Wastewater Feasibility Study
March 21, 2012
Revised: May 18, 2012

Always Engineering, Inc
2360 Professional Drive
Santa Rosa, CA 95403
(707) 542-8795

Christine Secheli, REHS
Napa County Department of Environmental Management
1195 3rd St., Room 101
Napa, Ca 94555

Project: Use Permit Modification for Larkmead Vineyards
1100 Larkmead Lane
Calistoga, CA
AP 020-240-001

Copies	Document Date	Description
1	7/7/2011	Napa County Self-Monitoring Form
1	12/19/2011	Napa County Self-Monitoring Form
1	3/21/2012	Wastewater Feasibility Study Site Plan

Christine,

This letter is provided to address the Wastewater Feasibility Study requirements of the Larkmead Vineyards Barrel Building Use Permit.

Project Proposal

Larkmead Vineyards received Use Permit approval to construct 36,000 gallons per year winery. Since construction of the winery and tasting room in 2005, the winery has increased their initial production and is now nearing the physical winemaking capacity of the existing buildings but has not yet reached their ultimate production of 36,000 gallons. They are currently applying for a use permit to construct an additional building onsite which will bring the winery to their ultimate permitted production. No production of wine beyond that already permitted will be requested and no additional tasting visitors or hospitality events are requested. The winery will not be adding any operations, but just relocating where they perform existing activities, and therefore no additional water use is expected to occur onsite. There will be an additional 6 full-time employees and four (4) part-time employees added to the site as part of this upgrade.

Always Engineering, Inc
2360 Professional Drive
Santa Rosa, CA 95403
(707) 542-8795

Existing System Operations

The existing septic system consists of two 2,000 gallon process wastewater septic tanks, one 1,500 gallon sanitary sewage septic tank, one 1,500 gallon pump sump and 2,760 lf of leachline separated into equal zones of 460 lf each.

Existing Flow Calculations

The winery is currently permitted for a production of 36,000 gallons of wine per year with a total of 6 full-time employees. This application is requesting a total of 10 full-time employees and four (4) part-time employees. In addition, the winery is approved for 40 peak daily tasting visitors and promotional events which will occur 3 times per month. The winery is also approved for two large events, occurring 2 times per year with a maximum of 120 visitors. Both of these large events will use portable toilets and therefore are not addressed in the flow calculations. All onsite food service is provided for with fully catered events, with all food preparation and cleanup occurring offsite. The onsite kitchen shall be used for staging of food only. Flows are estimated as follows:

Winery Process Wastewater (PW)

Napa County Peak Day

$$\frac{36{,}000 \text{ gallons wine} \times 1.5}{45 \text{ days}} = 1{,}200 \text{ gpd PW}$$

Employees

10 FTemployees	x	15 gpd/employee	=	150 gpd
4 PT employees	x	7.5 gpd/employee	=	30 gpd

Tasting Room

40 tasting visitors	x	3 gpd/visitor	=	120 gpd

Events

25 event visitors	x	5 gpd/visitor	=	125 gpd

Total Flow

Winery PW + Employee SS + Tasting SS + Event SS	=	Total Flow
1,200 gpd + 180 gpd + 120 gpd + 125 gpd	=	1,625 gpd

The **total flow proposed** to the system is **1,625 gpd.**

Always Engineering, Inc
2360 Professional Drive
Santa Rosa, CA 95403
(707) 542-8795

The proposed application to the existing system is calculated as follows:

Loading Rate = (Capacity)/ [(Leachline length) x (Infiltration Area)]

= (1625 gpd)/ (2,760 lf)x(1.67 sf/lf)

= 0.35 gpd/sf

The proposed loading is within the original design capacity of the existing septic system.

Existing System Operations

Since installation, the system has been maintained and monitored by McCollum General Engineering. Attached are recent monitoring inspections prepare by McCollum General Engineering. These reports are dated July 7, 2011 and December 19, 2011. The average flow for these time periods are 412 gpd and 482 gpd respectively.

Proposed Upgrades

With development of the additional building, the new process wastewater drains will need to be routed to the existing septic tanks. This may require use of an additional pump sump whose operation may be improved by a septic tank just upstream for removal of solids. Design of these features will be developed once additional information is known about the proposed site plumbing depth and its relation to existing plumbing.

Conclusions

The existing system appears to be functioning fine and is operating well below the design capacity. Because there is only a small increase in daily flow discharged, no change to the existing leachfield is required. Additional waste drain infrastructure and septic tanks will be installed as needed to collect and transmit waste into the existing septic system.

We trust that this letter sufficiently responds to the items of incompleteness. If you require clarification or have any questions, please feel free to contact us.

Sincerely,

Ben Monroe, P.E.
ALWAYS ENGINEERING, INC.
Project Manager

cc: Dan Petroski (Larkmead Vineyards)
Beth Painter (Balanced Planning)

NAPA COUNTY DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICIAL SELF-MONITORING REPORT FORM

OWNERS NAME: Larkmead Winery

SITE ADDRESS: 1100 Larkmead Lane

ASSESSOR'S PARCEL#:020-240-001 TELEPHONE# 942-0167

SYSTEM TYPE: Pressure Distribution

INSPECTED BY: McCollum General Engineering DATE: 7/7/2011

SEPTIC TANK / SUMP TANK / PUMP/ALARM / CONTROLS -

Septic Tank

Liquid level: HIGH (above sanitary T) __ NORMAL (at sanitary T) X LOW (below sanitary T) __
Odor: NORMAL (musty, earthy, moldy) X PUNGENT(rotten egg, cabbage) __
Sludge/scum level: NORMAL (35% or less tank capacity) X HIGH (>35% tank capacity) _____
Date of last pumping: N/A

Sump Tank

Liquid level: HIGH(above alarm float) __ NORMAL(between on/off float level) X LOW(below off float) __
Odor: NORMAL(musty, earthy, moldy) X PUNGENT (rotten egg, cabbage) __
Sludge/scum level: NORMAL(no measurable amount) X HIGH (measurable amount) _____
Date of last pumping: N/A

Pump and Alarm

Pump tested and functioning properly: YES
Alarm tested and functioning properly: YES
Floats inspected and functioning properly: YES
If no, please explain: _____

CONTROLS

Current dose counter reading: P-1/2596, P-2/2237 Date: 7/1/2011
Previous dose counter reading:P-1/2460, P2/ 2101 Date: 1/3/2011
Gallons per dose: 270 #of doses: 272 #of days: 178
Calculate gallons per day (gal/dose) X (#of doses) ÷ (# days) = 412

DISPOSAL FIELD -
Monitoring Well Data

Well #	Distance from surface of ground to water	Well #	Distance from surface of ground to water	Well #	Distance from surface of ground to water
1	Dry	8	49	15	Dry
2	Dry	9	50	16	
3	Dry	10	46	17	
4	48	11	45	18	
5	Dry	12	46	19	
6	Dry	13	48	20	
7	48	14	missing		

Soil cover: DRY MOIST X WET (spongy/saturated)
Condition of vegetation: NONE GOOD X OVERGROWN
Diversion/Distribution Valve: YES
If yes, inspected and functioning properly? YES If no, explain:

Date distribution network was last purged: 12/31/10
Additional comments: Pump controls checked, pumps checked, diversion valve cleaned, valves exercised, system tested - OK.

NAPA COUNTY DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICIAL SELF-MONITORING REPORT FORM

OWNERS NAME: Larkmead Winery

SITE ADDRESS: 1100 Larkmead Lane

ASSESSOR'S PARCEL#:020-240-001 TELEPHONE# 942-0167

SYSTEM TYPE: Pressure Distribution

INSPECTED BY: McCollum General Engineering DATE: 12/19/2011

SEPTIC TANK / SUMP TANK / PUMP/ALARM / CONTROLS -

Septic Tank

Liquid level: HIGH (above sanitary T) __ NORMAL (at sanitary T) X LOW (below sanitary T) __
Odor: NORMAL (musty, earthy, moldy) X PUNGENT(rotten egg, cabbage) __
Sludge/scum level: NORMAL (35% or less tank capacity) X HIGH (>35% tank capacity) _____
Date of last pumping: N/A

Sump Tank

Liquid level: HIGH(above alarm float) __ NORMAL(between on/off float level) X LOW(below off float) __
Odor: NORMAL(musty, earthy, moldy) X PUNGENT (rotten egg, cabbage) __
Sludge/scum level: NORMAL(no measurable amount) X HIGH (measurable amount) _____
Date of last pumping: N/A

Pump and Alarm

Pump tested and functioning properly: YES
Alarm tested and functioning properly: YES
Floats inspected and functioning properly: YES
If no, please explain: _____

CONTROLS

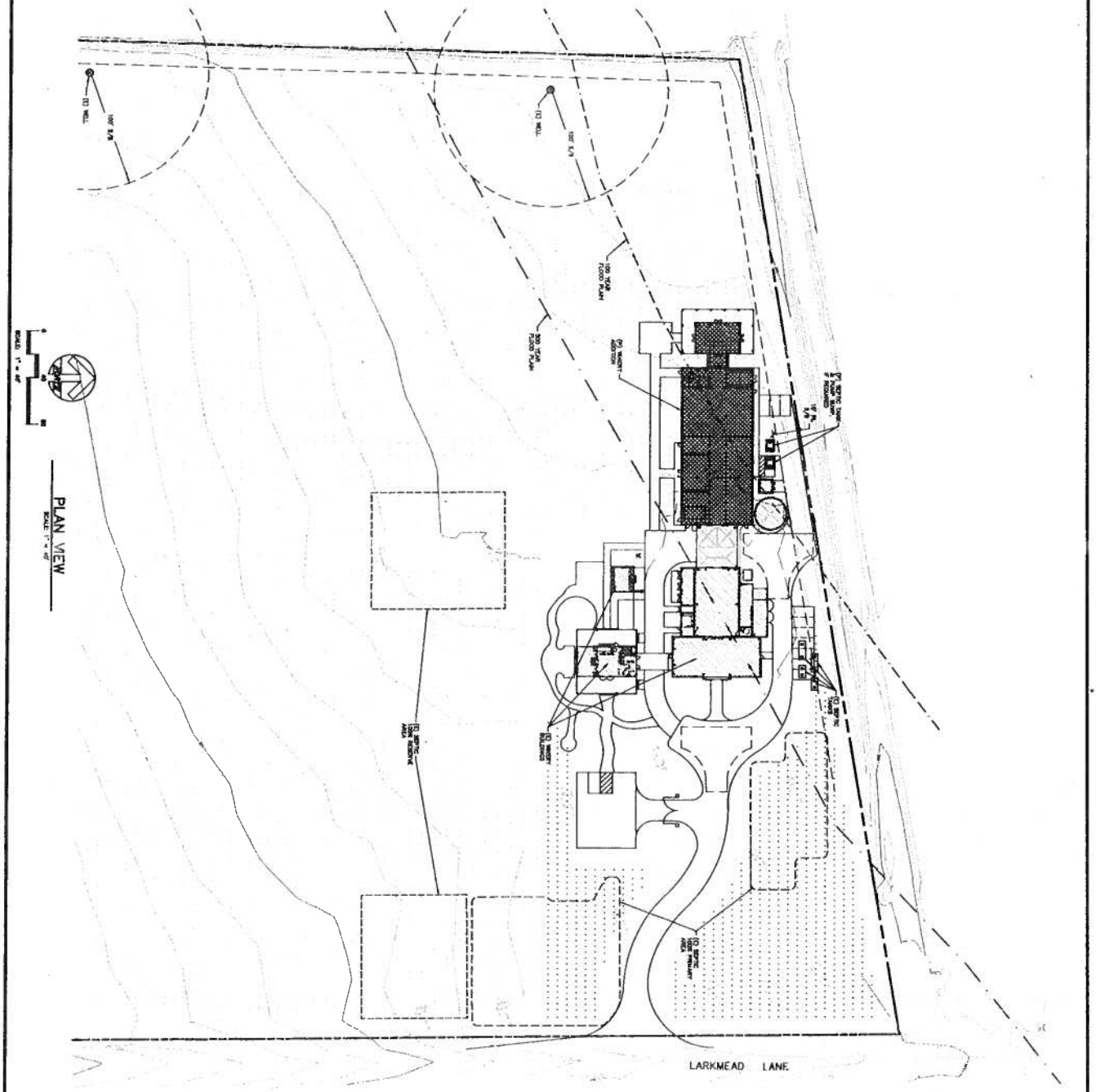
Current dose counter reading: P-1/2746, P-2/2387 Date: 12/19/2011
Previous dose counter reading:P-1/2596, P2/ 2237 Date: 1/3/2011
Gallons per dose: 270 #of doses: 300 #of days: 168
Calculate gallons per day (gal/dose) X (#of doses) ÷ (# days) = 482

DISPOSAL FIELD -
Monitoring Well Data

Well #	Distance from surface of ground to water	Well #	Distance from surface of ground to water	Well #	Distance from surface of ground to water
1	Dry	8	52	15	Dry
2	Dry	9	54	16	
3	Dry	10	51	17	
4	Dry	11	50	18	
5	53	12	50	19	
6	53	13	47	20	
7	50	14	50		

Soil cover: DRY MOIST X WET (spongy/saturated)
Condition of vegetation: NONE GOOD X OVERGROWN
Diversion/Distribution Valve: YES
If yes, inspected and functioning properly? YES If no, explain:

Date distribution network was last purged: 12/31/10
Additional comments: Pump controls checked, pumps checked, diversion valve cleaned, valves exercised, Lines purged, system tested - OK.

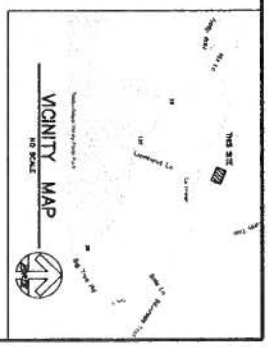


PLAN VIEW
SCALE: 1" = 40'

LEGEND

- APPROXIMATE PROPERTY LINE
- APPROXIMATE EASEMENT
- EDGE OF PAVEMENT/ROADWAY
- DRAINAGE COURSE/ FURNITURE
- 10 FOOT INDEX CONTOURS
- 2' INTERVAL CONTOURS
- CONTROL POINT
- FOUND MONUMENT
- WELL
- (E)/(P) EXISTING/PROPOSED
- BOULDER/PROFILE PIT
- SET BACK
- CLEAN OUT TO GRADE

VICINITY MAP
NO SCALE



SHEET WW1 OF WW1	BARREL HALL USE PERMIT WASTEWATER FEASIBILITY STUDY 1100 Larkmead Ln., Calistoga, CA APN: 020-240-001	Prepared for: Larkmead Vineyards 1100 Larkmead Ln., Calistoga, CA Prepared on: March 21, 2012	Always Engineering, Inc. Civil Engineering & Topographic Surveying 2300 Professional Drive (707) 543-8795 Santa Rosa, CA 95403 Fax (707) 542-6147 jason@alwayseng.com

Phase One Water Availability Analysis
March 21, 2012
Revised: May 18, 2012
Larkmead Vineyards

Always Engineering, Inc.
2360 Professional Drive
Santa Rosa, CA 95403
(707) 542-8795

March 21, 2012

John McDowell, Deputy Director
Napa County Conservation, Development,
& Planning Department
1195 3rd Street, Room 210
Napa, Ca 94559

Project: Larkmead Vineyards
1100 Larkmead Lane
Calistoga, Ca
APN: 020-240-001
Use Permit Modification
Phase 1 Water Availability Analysis

Dear John,

As required by the Napa County Department of Public Works, this letter provides the Phase 1 Water Availability Analysis as a supplement to the Larkmead Vineyards Use Permit modification request. The following information is provided to meet this requirement. Larkmead Vineyards is proposing to construct a new onsite barrel building, tasting and conference room, parking spaces and associated site improvements.

SITE PLAN

A Use Permit Site Plan has been provided and is attached. This site plan provides the existing and proposed site conditions. The site consists of an existing production and hospitality buildings, parking and landscape areas, and existing infrastructure. Also provided on the site plan is a portion of the USGS quad map indicating location of the project parcel.

PROJECT DESCRIPTION

Larkmead Vineyards, located at 1100 Larkmead Lane in Calistoga, Napa County, California (APN 020-240-001) is applying for a use permit to construct a new barrel hall and tasting and conference room as well as associated sitework improvements. With the project it is not proposed to increase production or wine tasting operations, or wine events. There will be an additional six(6) full-time employees and four (4) additional part-time employees.

No increase in visitation or production is proposed.

AE
Always Engineering, Inc.
2360 Professional Drive
Santa Rosa, CA 95403
(707) 542-8795

ALLOWABLE WATER ALLOTMENT

Parcel acreage	=	17.85 acres
Parcel Location Factor	=	1.0 ac-ft/ac-yr (Mountain Area)
Allowable Water Allotment	=	17.85 ac-ft/yr

Based on Step #2 of the Water Availability Study, the allowable water allotment for the site is 17.85 ac-ft/yr which represents no increase from the existing property.

WATER CONSUMPTION

Presented below are the calculations used to complete the Phase One Study with the assumed Napa County values.

Existing Vineyard Use

14.2 acres x 0.5 ac-ft/ac-yr (irrigation)	=	7.1 ac-ft/yr
Total Existing Vineyard Use	=	**7.1 ac-ft/yr**

Proposed Vineyard Use

13.2 acres x 0.5 ac-ft/ac-yr (irrigation)	=	6.6 ac-ft/yr
Total Proposed Vineyard Use	=	**6.6 ac-ft/yr**

The total amount of proposed vineyard water use is estimated to be 6.6 ac-ft/yr using the Napa County Public Works values. Frost and heat protection do not occur onsite.

Existing and Proposed Winery Process Use

36,000 gallons wine/yr x 2.15 ac-ft/100,000 gallons wine = 0.774 ac-ft/yr

Existing and Proposed Winery Domestic and Landscape Use

36,000 gallons wine/yr x 0.5 ac-ft/100,000 gallons wine = 0.18 ac-ft/yr

Total Winery Use

Process Use	=	0.774 ac-ft/yr
Domestic and Landscape Use	=	0.18 ac-ft/yr

AE
Always Engineering, Inc.
2360 Professional Drive
Santa Rosa, CA 95403
(707) 542-8795

Total Winery Use = 0.954 ac-ft/yr

The total winery water use is estimated to be 0.954 ac-ft/yr using the Napa County Public Works assumed values.

Total Water Use

The total estimated water consumption from the project is estimated to be 7.554 ac-ft/yr which is equivalent to 2,461,478 gallons per year. This is less than the existing use of 8.054 ac-ft/yr (2,624,404 gallons).

EXISTING WATER SYSTEM

The existing potable water system consists of the potable onsite well, water storage tanks, pressure tanks, and water treatment. There are other onsite wells which are used for vineyard irrigation only.

SUMMARY AND CONCLUSIONS

As presented above, the overall proposed water use for the Larkmead Vineyards winery is expected to be 7.554 ac-ft/yr. which presents a decrease from the existing use. This amount is below the parcel's allowable water allotment of 17.85 ac-ft/yr. Therefore, the Phase 1 study should be sufficient to satisfy the requirements of the Public Works Department.

If there are questions regarding that presented, please feel free to contact me.

Sincerely,

Ben Monroe, P.E.
Always Engineering, Inc.

cc: Dan Petroski (Larkmead Vineyards)
Beth Painter (Balanced Planning)

A Tradition of Stewardship
A Commitment to Service

Department of Public Works

1195 Third Street, Suite 201
Napa, CA 94559-3092
www.co.napa.ca.us/publicworks

Main: (707) 253-4351
Fax: (707) 253-4627

Donald G. Ridenhour, P.E.
Director

WATER AVAILABILITY ANALYSIS - PHASE ONE 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 assessor's 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:

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 underline 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**

Assessor's Parcel Number(s)	Parcel Size (A)	Parcel Location Factor (B)	Allowable Water Allotment (A) X (B)
020-240-001	17.85	1.0	17.85

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:		PROPOSED USE:	
Residential	0 af/yr	Residential	0 af/yr
Farm Labor Dwelling	0 af/yr	Farm Labor Dwelling	0 af/yr
Winery	0.954 af/yr	Winery	0.954 af/yr
Commercial	0 af/yr	Commercial	0 f/yr
Vineyard*	7.1 af/yr	Vineyard*	6.6 af/yr
Other Agriculture	0 af/yr	Other Agriculture	0 af/yr
Landscaping	0 af/yr	Landscaping	0 af/yr
Other Usage (List Separately):		Other Usage (List Separately):	
_____	_____ af/yr	_____	_____ af/yr
_____	_____ af/yr	_____	_____ af/yr
_____	_____ af/yr	_____	_____ af/yr
TOTAL:	8.054 af/yr 2,624,404 gallons**	**TOTAL:**	7.554 af/yr **TOTAL:** **TOTAL:** 2,461,478 gallons**

Is the proposed use less than the existing usage? [x] **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 if other water sources such as city water or reservoirs, the timing of the development, etc. Use additional sheets if necessary.

See attached report by Always Engineering, Inc.

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: _____ **Date:** 3/21/12 **Phone:** 707 542-8795 x17

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

NAPA COUNTY CONSTRUCTION SITE RUNOFF CONTROL REQUIREMENTS
APPENDIX A – PROJECT APPLICABILITY CHECKLIST

Construction Site Runoff Control Applicability Checklist	County of Napa Department of Public Works 1195 Third Street, Suite 201 Napa, CA 94559 (707) 253-4351 www.co.napa.ca.us/publicworks

Project Address:	Assessor Parcel Number(s):	Project Number: *(for County use Only)*
1100 Larkmead Lane Calistoga, CA 94515	020-240-001	

INSTRUCTIONS

Structural projects that require a building and/or grading permit must complete the following checklist to determine if the project is subject to Napa County's Construction Site Runoff Control Requirements. This form must be completed and submitted with your permit application(s). Definitions are provided in the Napa County Construction Site Runoff Control Requirements policy. **Note:** If multiple building or grading permits are required for a common plan of development, the total project shall be considered for the purpose of filling out this checklist.

DETERMINING PROJECT APPLICABILITY TO THE CONSTRUCTION SITE RUNOFF CONTROL REQUIREMENTS

- ✓ If the answer to question 1 of Part A is "Yes" your project is subject to Napa County's Construction Site Runoff Control requirements and must prepare a Stormwater Pollution Prevention Plan (SWPPP). The applicant must also comply with the SWRCB's NPDES General Permit for Stormwater Associated with Construction Activity and must provide a copy of the Notice of Intent (NOI) and Waste Discharge Identification (WDID).
- ✓ If the answer to question 1 of Part A is "No", but the answer to any of the remaining questions is "Yes" your project is subject to Napa County's Construction Site Runoff Control requirements and must prepare a Stormwater Quality Management Plan (SQMP).
- ✓ If every question to Part A is answered "No" your project is exempt from Napa County's Construction Site Runoff Control Requirements, but must comply will all construction site runoff control standard conditions attached to any building or grading permit (see Appendix D of the Napa County Construction Site Runoff Control Requirements).
- ✓ If any of the answers to the questions in Part A is "Yes", complete the construction site prioritization in Part B below.

OVER

NAPA COUNTY CONSTRUCTION SITE RUNOFF CONTROL REQUIREMENTS
APPENDIX A – PROJECT APPLICABILITY CHECKLIST

Part A: Determine Construction Phase Stormwater Requirements

Would the project meet any of these criteria during construction?

1. Propose any soil disturbance of one acre or more? ..... Yes (No)
2. Does the project propose any soil disturbance greater than 10,000 square feet?..... (Yes) No
3. Does the project propose grading, earth moving, or soil disturbance on slopes 15% or greater?..... Yes (No)
4. Does the project propose earthmoving of 50 cubic yards or more?..... (Yes) No
5. Does the project propose soil disturbance within 50 feet of a stream, ditch, swale, curb and gutter, catch basin or storm drain that concentrates and transports stormwater runoff to a "receiving water" (i.e., Waters of the State defined as all waters, including but not limited to, natural streams, creeks, rivers, reservoirs, lakes, ponds, water in vernal pools, lagoons, estuaries, bays, the Pacific Ocean, and ground water)? Yes (No)

Part B: Determine Construction Site Priority

Projects that are subject to the Construction Site Runoff Control Requirements must be designated with a priority of high, medium, or low. This prioritization must be completed with this form, noted on the plans, and included in the SWPPP or SQMP. Indicate the project's priority in one of the checked boxes using the criteria below. The County reserves the right to adjust the priority of projects both before and during construction.

Note: The construction priority does NOT change construction Best Management Practice (BMP) requirements that apply to projects. The construction priority does affect the frequency of inspections that will be conducted by County staff and associated fees.

Select the highest priority category applicable to the project.

High Priority
- a) Projects with soil disturbance of one acre or greater.
- b) Projects on slopes of 30% or greater.
- c) Projects proposing new storm drains.

(–) Medium Priority
- a) Projects on slopes from 5% to 29%.
- b) Projects with soil disturbance between 10,000 sq. ft and one acre.
- c) Projects with earthmoving of 50 cubic yards or more.

Low Priority
- a) Projects with soil disturbance within 50 feet stream, ditch, swale, curb and gutter, catch basin or storm drain that concentrates and transports stormwater runoff to a "receiving water".

Name of Owner or Agent (Please Print):	Title:
Ben Monroe, P.E	Civil Engineer
Signature of Owner or Agent:	Date:
Ben Monroe	3/29/12

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Napa County, California (CA055)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
103	Bale loam, 0 to 2 percent slopes	C	91.9	52.0%
104	Bale clay loam, 0 to 2 percent slopes	C	14.6	8.3%
105	Bale clay loam, 2 to 5 percent slopes	C	17.7	10.0%
118	Cole silt loam, 0 to 2 percent slopes	C	21.1	11.9%
124	Cortina very gravelly loam, 0 to 5 percent slopes	A	0.0	0.0%
125	Cortina very stony loam, 0 to 5 percent slopes	A	17.7	10.0%
174	Riverwash		13.7	7.7%
Totals for Area of Interest			176.7	100.0%

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Units

Soil Ratings
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Political Features
- Cities

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:5,760 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 10N NAD83

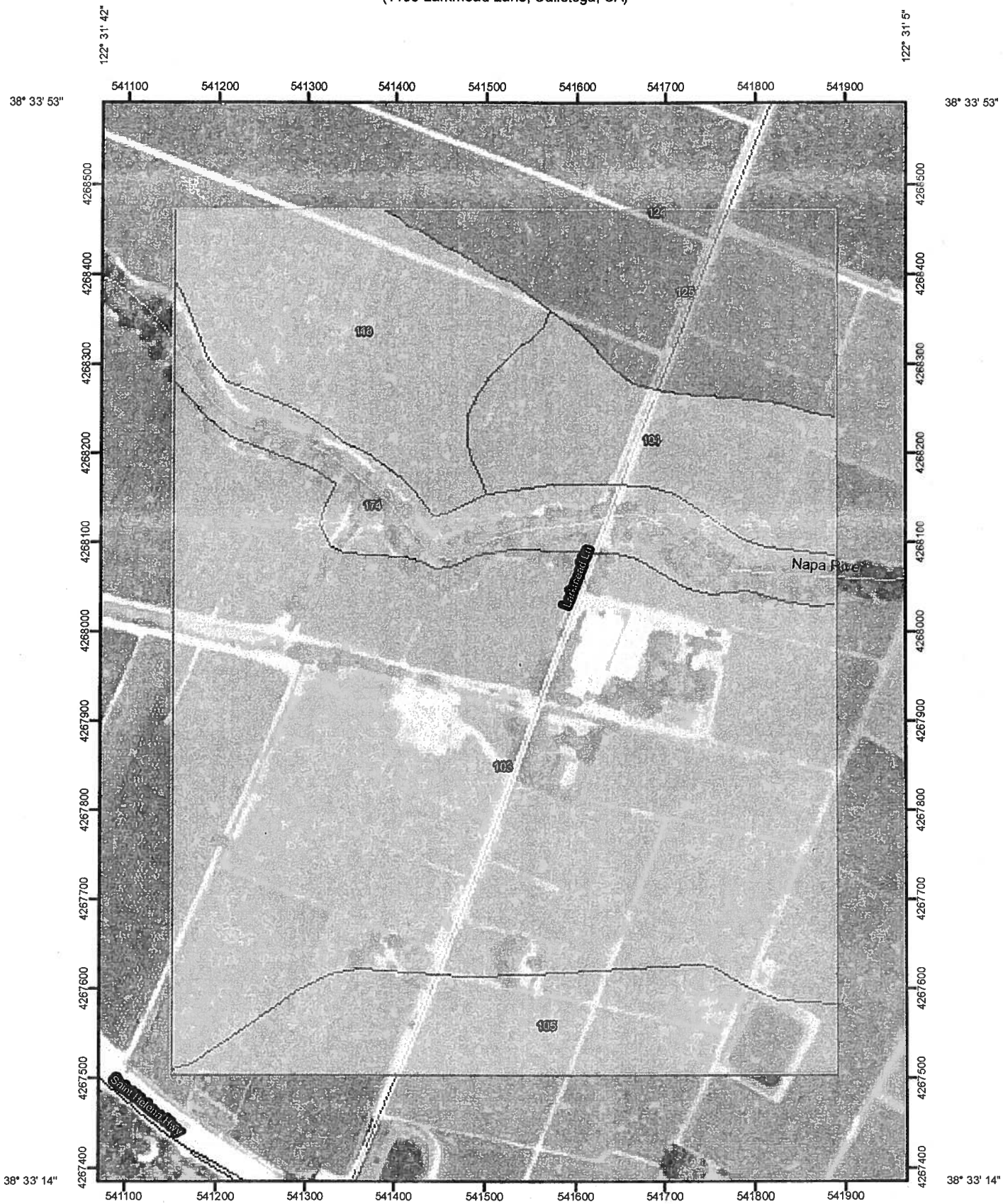
This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Napa County, California
Survey Area Data: Version 4, Dec 10, 2007

Date(s) aerial images were photographed: 6/22/2005

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group---Napa County, California
(1100 Larkmead Lane, Calistoga, CA)



Map Scale: 1:5,760 if printed on A size (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1,200

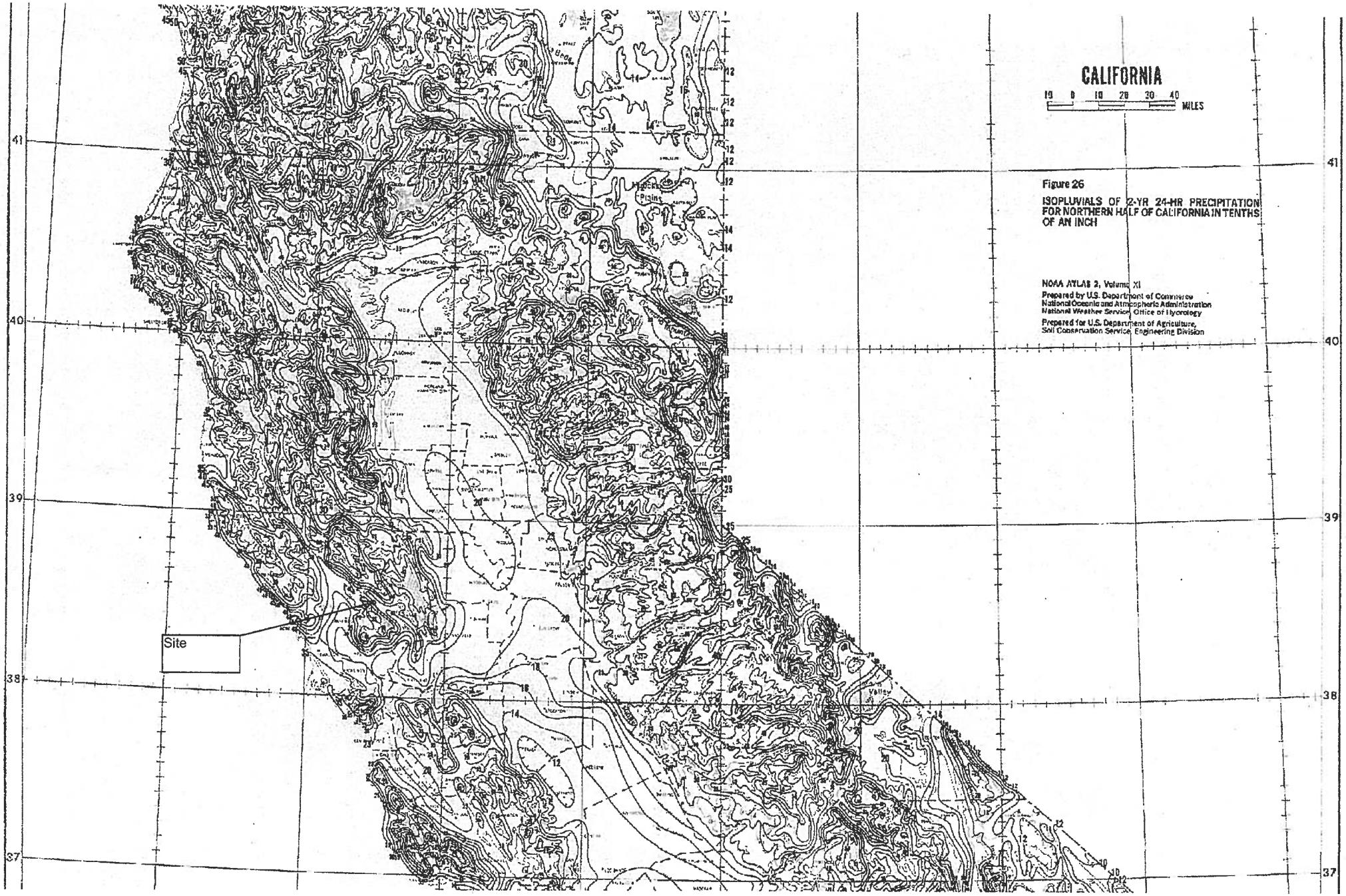

CALIFORNIA
10 0 10 20 30 40
MILES
Figure 26
ISOPLUVIALS OF 2-YR 24-HR PRECIPITATION FOR NORTHERN HALF OF CALIFORNIA IN TENTHS OF AN INCH
NOAA ATLAS 2, Volume XI
Prepared by U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service, Office of Hydrology
Prepared for U.S. Department of Agriculture,
Soil Conservation Service, Engineering Division
Site
41
40
39
38
37

Table of Runoff Curve Numbers (SCS, 1986)

Description of Land Use	Hydrologic Soil Group			
	A	B	C	D
Paved parking lots, roofs, driveways	98	98	98	98
Streets and Roads:				
Paved with curbs and storm sewers	98	98	98	98
Gravel	76	85	89	91
Dirt	72	82	87	89
Cultivated (Agricultural Crop) Land*:				
Without conservation treatment (no terraces)	72	81	88	91
With conservation treatment (terraces, contours)	62	71	78	81
Pasture or Range Land:				
Poor (<50% ground cover or heavily grazed)	68	79	86	89
Good (50-75% ground cover; not heavily grazed)	39	61	74	80
Meadow (grass, no grazing, mowed for hay)	30	58	71	78
Brush (good, >75% ground cover)	30	48	65	73
Woods and Forests:				
Poor (small trees/brush destroyed by over-grazing or burning)	45	66	77	83
Fair (grazing but not burned; some brush)	36	60	73	79
Good (no grazing; brush covers ground)	30	55	70	77
Open Spaces (lawns, parks, golf courses, cemeteries, etc.):				
Fair (grass covers 50-75% of area)	49	69	79	84
Good (grass covers >75% of area)	39	61	74	80
Commercial and Business Districts (85% impervious)	89	92	94	95
Industrial Districts (72% impervious)	81	88	91	93
Residential Areas:				
1/8 Acre lots, about 65% impervious	77	85	90	92
1/4 Acre lots, about 38% impervious	61	75	83	87
1/2 Acre lots, about 25% impervious	54	70	80	85
1 Acre lots, about 20% impervious	51	68	79	84

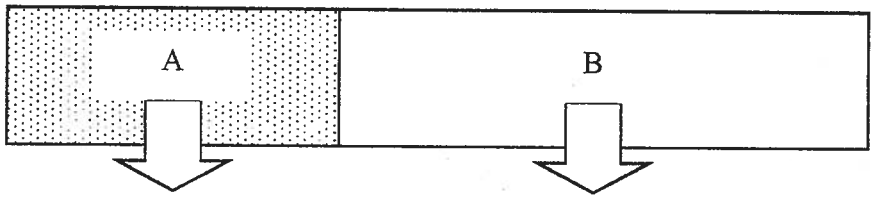
*From Chow et al. (1988).

Post-Development Total Runoff Volume

NRCS Curve Number Procedure, Weighted Average Volume Technique

Q=(P-0.2S)^2/(P+0.8S) where, S=1000/CN-10

2-Year, 24-Hour Storm (Inches):
4.50 NOAA Rainfall Feq maps



Area ID	Area (Acres)	Land Use	Soil Group	CN (Curve Number)	S	Q (Rainfall Excess, inches)	Runoff Volume (acre-feet)	Runoff Volume (cu ft)
A	1.347	Combined	C	98	0.20	4.264	0.479	20849
B	0	not used	C	65	5.38	1.330	0.000	0
						Total Runoff Volume	**0.48**	**20,849**

	acre-feet	cubic-feet
Total Pre-Project Runoff Volume	**0.40**	**17,381**
Total Post-Project Runoff Volume	**0.48**	**20,849**
Difference in Runoff Volume	**0.07964**	**3,469**
Percent Change	**20%**	**20%**

Bioretention Depth (ft) **2.00**
Bioretention Area (ft^2) **1,734**

Area of Development (Acres) **0.42**
Percent of development needed for bioretention. **10%**

Pre-Development Total Runoff Volume

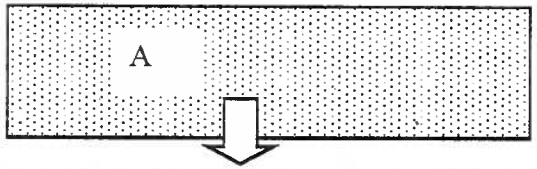
NRCS Curve Number Procedure, Weighted Average Volume Technique

Q=(P-0.2S)^2/(P+0.8S) where, S=1000/CN-10

2-Year, 24-Hour Storm (Inches):

4.50

Hydrologic Condition and Direction of Runoff



Area ID	Area (Acres)	Land Use	Soil Group	Combined CN (Curve Number)	S	Q (Rainfall Excess, inches)	Runoff Volume (acre-feet)	Runoff Volume (cu ft)
A	0.93	Combined	C	98	0.20	4.264	0.330	14,395
B	0.417	Combined	C	74	3.51	1.972	0.069	2,986
						Total Runoff Volume	**0.40**	**17,381**

Always Engineering, Inc
2360 Professional Drive
Santa Rosa, CA 95403
(707) 542-8795

Proposed Storm Drainage System Improvements

The proposed improvements will consist of 18,492 sf of additional impervious area (tabulated below) which will require approximately 3,469 cubic feet of retention (from the attached preliminary calculations).

Impervious Cover Table and C value

SPACE	EXISTING (SQ. FT.)	CN group C from SCS	ADDITIONAL PROPOSED (SQ. FT.)	CN group C from SCS
Parking	3,282	98	1,924	98
Drive Aisle	19,877	98	2,482	98
Trash/Mechanical	1,710	98	0	98
Patios	410	98	0	98
Roof (buildings)	9,593	98	9,531	98
Paths	5,857	98	4,555	98
TOTAL Impervious	**40,729**		**18,492**	

Permanent BMP's

A Bio-Infiltration Swale (see detail on the attached plan) is to be utilized on a majority of the down slope portions of the property line. This trench will provide treatment of the new AC paving and also 3,500 cubic feet of detention required for the increase in impervious cover.

'Impervious Area disconnection' will also be utilized as the roof drains will outfall to the surface (not connected to a storm drain system).

SUMMARY AND CONCLUSIONS

With the proposed installation of the swale and the impervious area disconnection for roof drains the proposed increase in impervious cover should be considered negligible.

12001 Larkmead
SRMP
March 27, 2012

Always Engineering, Inc
2360 Professional Drive
Santa Rosa, CA 95403
(707) 542-8795

Larkmead Vineyards

1100 Larkmead Lane, Calistoga, Ca
APN 020-240-001

Barrell Hall

Stormwater Runoff Management Plan (SRMP)

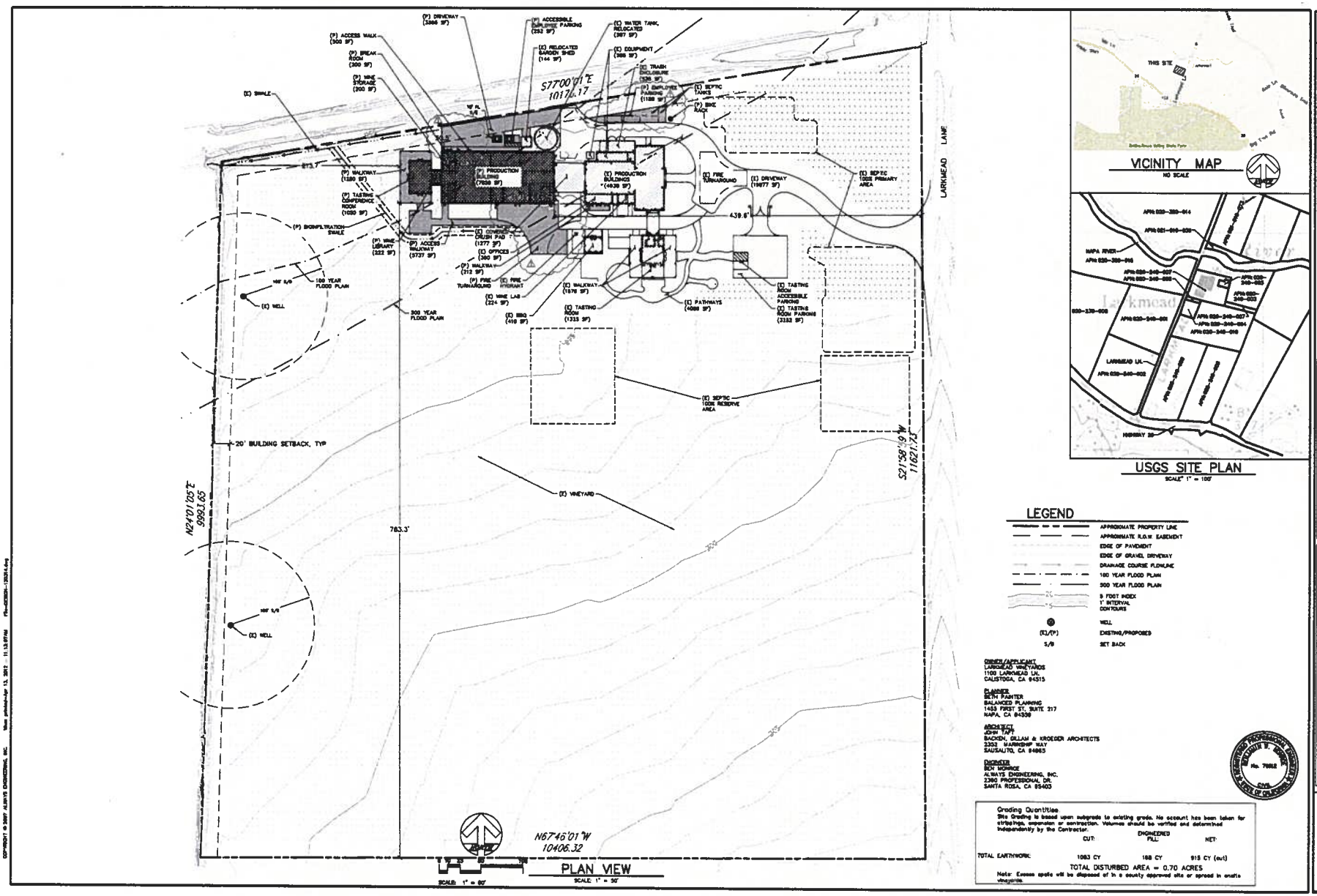
Project and Site Background

The project is located at 1100 Larkmead Lane, Calistoga, CA. The primary purpose of this modification is to request approval for an additional 9,530 square foot winery building. The original design provided a consolidated production building to house both stainless steel tanks and oak barrels. The wine production has been limited by this consolidated plan and the owner is proposing a new building dedicated to barrel storage, thereby creating additional area for tank space in the original winery building. This will allow the winemaker space to separate wines by tank in a manner that cannot be accomplished with their limited area and will add the barrel space needed for the full 36,000 gallons of production. The new barrel building will also include a tasting/conference room, wine library, small employee break room and additional rest rooms.

A site plan is provided in Enclosure A displaying the existing site and proposed improvements.

Existing Storm Drainage System

The existing storm drainage is conveyed to the north and northwest direction mainly by sheet flow. There are two drain inlets that are outleted to the swale adjacent to the winery. One is diverted to process waste and is to be covered.



OWNER/APPLICANT
LARKMEAD VINEYARDS
1100 LARKMEAD LN.
CALISTOGA, CA 94515

PLANNER
BETH RAINTER
BALANCED PLANNING
1453 FIRST ST, SUITE 217
NAPA, CA 94559

ARCHITECT
JOHN TAPP
BACKEN, GILLAM & KROEGER ARCHITECTS
2300 MARKEMP WAY
SAUSALITO, CA 94965

ENGINEER
BEN MONROE
ALWAYS ENGINEERING, INC.
2360 PROFESSIONAL DR.
SANTA ROSA, CA 95403

Grading Quantities
Site Grading is based upon subgrade to existing grade. No account has been taken for strippings, expansion or contraction. Volumes should be verified and determined independently by the Contractor.

	CUT:	ENGINEERED FILL:	NET:
TOTAL EARTHWORK:	1083 CY	168 CY	915 CY (cut)

TOTAL DISTURBED AREA = 0.70 ACRES
Note: Excess spoils will be disposed of in a county approved site or spread in onsite vineyards.

REVISION	DESCRIPTION	BY	DATE
1	INC. SHEET	RLB	4/13/12

Always Engineering, Inc.
Civil Engineering & Topographic Surveying
2360 Professional Drive (707) 542-8795
Santa Rosa, CA 95403 Fax (707) 542-6147
www.alwaysinc.com

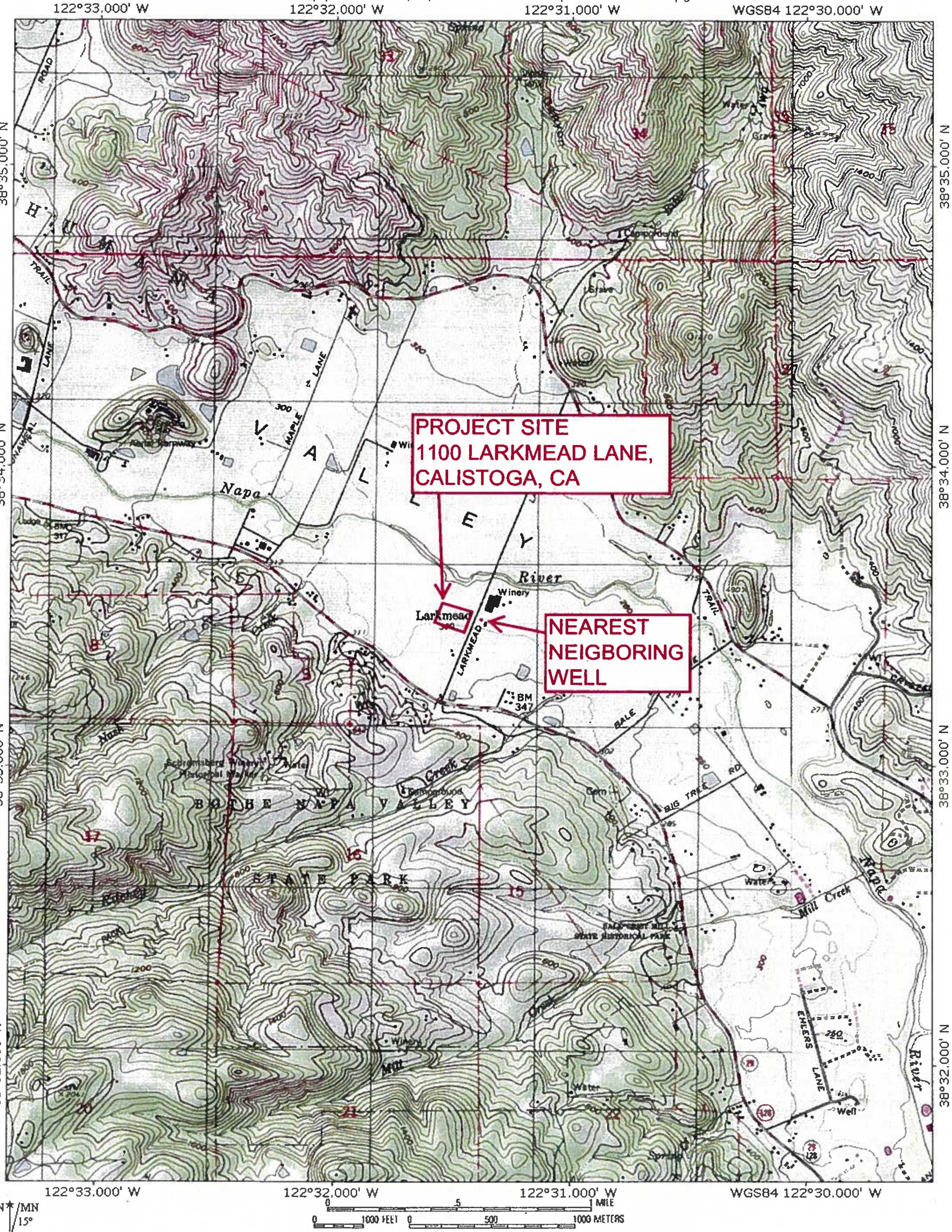
Prepared for: Larkmead Vineyards
1100 Larkmead Ln., Calistoga, CA

Prepared on: April 13, 2012

BARREL HALL USE PERMIT
SITE PLAN
1100 Larkmead Ln., Calistoga, CA
APN: 020-240-001

JOB # 12501
SHEET
UP1 OF UP1

TOPO! map printed on 03/21/12 from "California.tpo" and "Untitled.tpg"



Map created with TOPO!® ©2002 National Geographic (www.nationalgeographic.com/topo)

STATE OF CALIFORNIA

WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. 739735

apy
of 1
Well No.
ork Began 6-8-01 Ended 6-14-01
al Permit Agency Napa County Environmental Heal
Permit No. 96-11833 Permit Date 6-5-01

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

GEOLOGIC LOG

ORIENTATION (∠) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD rotary FLUID bentonite

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION Describe material, grain size, color, etc.
0	20	brown clay
20	80	brown clay with embedded rock
80	120	mixed alluvium
120	140	brown clay
140	180	clay with embedded rock
180	280	mixed volcanics
280	320	brown clay

TOTAL DEPTH OF BORING 320 (Feet)
TOTAL DEPTH OF COMPLETED WELL 260 (Feet)

WELL OWNER

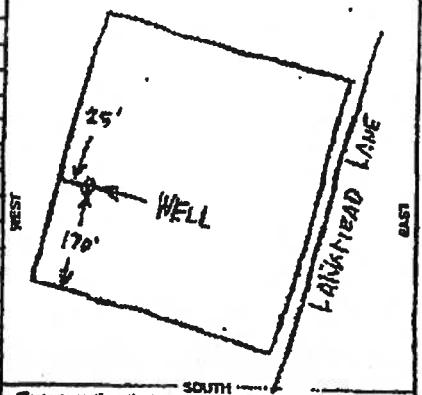
Name Solari Estate
Mailing Address Lockwood Lane
City Calistoga CA 94515
STATE ZIP

WELL LOCATION

Address same
City
County Napa
APN Book 20 Page 240 Parcel 01
Township Range Section
Latitude DEG. MIN. SEC. NORTH Longitude DEG. MIN. SEC. WEST

LOCATION SKETCH

NORTH



SOUTH

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 (∠)

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

PLANNED 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 N/A (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 13 (Ft.) & DATE MEASURED 6-21-01
ESTIMATED YIELD * 120 (GPM) & TEST TYPE air lift
TEST LENGTH 2 (Min.) TOTAL DRAWDOWN N/A (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	CASING MATERIAL	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	260	15								
260	320	12								
0	160		X				PVC F480	8	SDR-21	
160	260			X			PVC F480	8	SDR-21	.032

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (∠)	BENTONITE (∠)	FILL (∠)	FILTER PACK (TYPE/SIZE)
0	16	X			concrete
16	23		X		chips
23	260			X	#6 sand
260	320			X	backfill

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 Blackhawk Well Drilling, Inc.
PERSON, FIRM, OR CORPORATION (TYPED OR PRINTED)
ADDRESS 2110 Penny Lane Napa CA 94559
CITY STATE ZIP
Signed [signature] 6-28-01
(SIGNATURE OF DRILLER OR AUTHORIZED REPRESENTATIVE) DATE SIGNED
439-746
C57 LICENSE NUMBER

DWR 188 REV. 11-97 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM