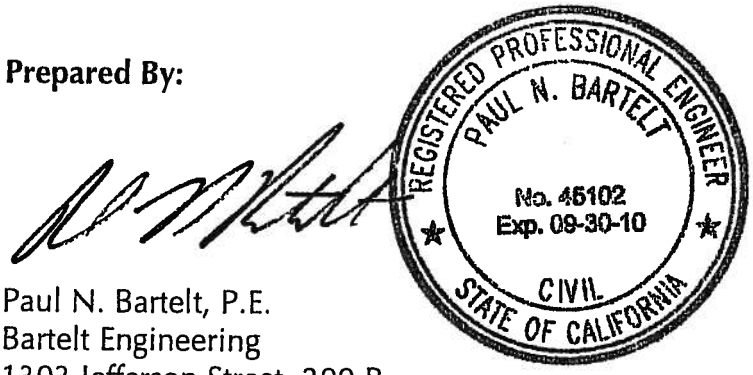
WASTEWATER FEASIBILITY STUDY

CEJA WINERY
1016 LAS AMIGAS ROAD
NAPA COUNTY, CA
APN 047-240-037

Prepared For:

Ceja Winery
c/o Armando Ceja
987 Leveroni Road
Sonoma, CA 95476

Prepared By:



Paul N. Bartelt, P.E.
Bartelt Engineering
1303 Jefferson Street, 200 B
Napa, CA 94559

August 2009 - Submitted
March 2010 - Revised
Job # 07-23

March 18, 2010
#07-23

BARTELT engineering

Kim Withrow
Napa County Environmental Management
1195 Third Street, Room 101
Napa, CA 94559

Re: Use Permit Application for the Ceja Winery, 1016 Las Amigas Road, Napa County, CA, APN 047-240-016

Dear Ms. Withrow:

We have received your Memorandum dated December 31, 2009 regarding the Use Permit Application for the Ceja Family Winery. In response to your comments, we offer the following:

1. **The site evaluation conducted on June 21, 2007 revealed faint mottling at depths below ground surface ranging from 30 to 32 inches in the area proposed for the primary treatment and disposal system. The soil test pits evaluated in the reserve area revealed mottling at depths 24 to 36 inches below ground surface. Based upon the information obtained as a result of the site evaluation a pressure distribution system is not appropriate at this site. The applicant may have their design engineer conduct wet weather monitoring at this site or propose another type of system that is appropriate for these site conditions.**

   Bartelt Engineering has decided not to conduct wet weather monitoring and has updated the plans and the feasibility study to propose a subsurface drip dispersal system with pretreatment which will satisfy Napa County guidelines based on the June 21, 2007 site evaluation results. Please see the attached Ceja Winery Conceptual Site Plans dated March 2010 and the Onsite Wastewater Disposal Feasibility Study dated March 2, 2010. This update should satisfy the permitting requirement and provide for the completeness of the application.

If you have any questions regarding my recommendations please feel free to call me at (707) 258-1301.

Sincerely,

Paul N. Bartelt, P.E.
Principal Engineer

PNB:sd

cc: Armando Ceja
Donna Oldford

RECEIVED
APR 08 2010
NAPA CO. CONSERVATION DEVELOPMENT & PLANNING DEPT.

civil engineering
land planning
1303 jefferson street, 200 B
napa, california 94559
(707) 258-1301
(707) 258-2926 fax

March 2, 2010 (Revised)
#07-23

Christine M. Secheli
Napa County Environmental Management
1195 Third Street, Room 101
Napa, CA 94559

Re: Revised Onsite Wastewater Disposal Feasibility Study for the Ceja Winery, 1016 Las Amigas Road, Napa County, CA, APN 047-240-016

Dear Ms. Secheli:

At the request of Armando Ceja, Bartelt Engineering has evaluated the feasibility of providing onsite wastewater disposal for the proposed winery to be located at 1016 Las Amigas Road in Napa County, California.

The project proposes the construction of a new full crush winery facility capable of producing 45,000 gallons of wine per year. The proposed winery staff will consist of 10 full-time employees and 5 seasonal (harvest) employees. The Applicant intends to establish a private tasting room with tours and tastings; additionally, the Applicant plans to hold food and wine pairings and other special events at the winery. The following is a summary of the proposed marketing plan:

Description	Frequency	Number of Visitors
Private Tours & Tastings	4 per day	6 per tour
Food & Wine Pairings	4 per month	20 per event
Wine Club Events	4 per year	50 per event
Auction Related Events	2 per year	125 per event

OK

The proposed winery will contain a commercial kitchen capable of catering food for up to 125 people. It is planned that Private Tours and Tastings, Food and Wine Pairings, Wine Club Events and Auction Related Events will not be held on the same day.

As part of our work, we have reviewed the planned operational methods for the winery with our Client, reviewed the parcel files at the Napa County Department of Environmental Management, held conversations with Napa County Department of Environmental Management staff, and performed a reconnaissance of the site to view existing conditions.

This report and the attached Conceptual Site Plan will demonstrate that a winery can feasibly be developed on the parcel to produce 45,000 gallons of wine per year and adequately dispose of all wastewater onsite.

Water Use Analysis

A Phase One Water Availability Analysis has been completed by Bartelt Engineering for the proposed winery. According to the Phase One Analysis, the parcel is allotted 10.42 acre-feet of water per year. The Phase One Analysis estimates that the proposed water use for the entire parcel (existing residence, existing vineyard and the proposed 45,000 gallon per year winery) will be approximately 5.35 acre-feet of water per year (see the Phase One Water Availability Analysis prepared by Bartelt Engineering dated March 2010 for more information on the proposed water use).

Winery Process Wastewater Flow

Peak Winery Process Wastewater Flow =

$$\frac{(45{,}000 \text{ gallons wine per year})(1.5 \text{ gallons water per 1 gallon wine})}{45 \text{ days of crush per year}}$$

Peak Winery Process Wastewater Flow = 1,500 gallons per day (gpd)

Average Winery Process Wastewater Flow:

$$\frac{(45{,}000 \text{ gallons wine per year})(6 \text{ gallons water per 1 gallon wine})}{365 \text{ days per year}}$$

Average Winery Process Wastewater Flow = 740 gpd

Winery Sanitary Wastewater Flow

Peak sanitary wastewater generated at the proposed facility can be itemized as follows:

Employees:

(10 full-time employees) x (15.0 gpd per employee) = 150 gpd

(5 seasonal (harvest) employees) x (15.0 gpd per employee) = 75 gpd

Private Tours and Tastings:

(24 guests per day) x (3.0 gpd per guest) = 72 gpd

Food and Wine Parings: (8 gallons per guest to include use of kitchen for food preparation)

(20 guests per event) x (8 gpd per guest) = 160 gpd

Wine Club Events: (8 gallons per guest to include use of kitchen for food preparation)

(50 guests per event) x (8 gpd per guest) = 400 gpd

Auction-Related Events: (Portable toilet facilities will be provided for auction related events)

(125 guests per event) x (3 gpd per guest) = 375 gpd

Winery Commercial Kitchen:

The proposed winery will contain a commercial kitchen. The kitchen will be used to cater food for up to 125 people per event. The following estimate for peak kitchen water use is based on the United States Environmental Protection Agency's Onsite Wastewater Treatment System Manual estimate for restaurant water use:

(5 gal per meal served) x (125 meals served per event) = 625 gpd

Peak Sanitary Wastewater Flow:

The peak daily winery sanitary wastewater flow will be generated during the auction related event as shown below. Since portable toilet facilities will be provided for guest use during auction related events, no domestic wastewater will be produced for onsite disposal.

(Full Time Employees)	+	(Part Time Employees)	+	(Commercial Kitchen)
150 gpd	+	75 gpd	+	625 gpd

Peak Winery Sanitary Wastewater Flow = 850 gpd

Existing Residence Sanitary Wastewater Flow

Two Bedroom House

(150 gallons per day per bedroom) x (2 bedrooms) = 300 gallons per day

Total Proposed Site Wastewater Flow

The total proposed site wastewater flow is the combination of the proposed winery process wastewater, the proposed winery sanitary wastewater and the existing residence sanitary wastewater, and is shown as follows:

(Winery Process Wastewater)	+	(Winery Sanitary Wastewater)	+	(Residential Sanitary Wastewater)
1,500 gpd	+	850 gpd	+	300 gpd

Total Peak Wastewater Flow = 2,650 gpd

Proposed Wastewater Disposal Methods

Based on the proposed wastewater flows, the site evaluation performed by Bartelt Engineering on June 22, 2007 and available area on the site, Bartelt Engineering proposes to combine and dispose of the process wastewater and the sanitary wastewater via a subsurface drip dispersal system with effluent pretreatment.

Proposed Winery Process Wastewater Disposal System

The proposed winery process wastewater treatment system will consist of several steps. The floor of the proposed winery building will be sloped so that all process wastewater is collected in trench drains and floor drains. The winery process wastewater collected in the trench drains and floor drains will then gravity flow into a septic tank fitted with a filter to remove finer solids. From the septic tank, the process wastewater will gravity flow to a recirculation/blend tank where it will be combined with effluent from the sanitary wastewater system's septic tanks. The combined effluent in the recirculation/blend tank will be treated by a pretreatment system before being stored in a dosing tank. Treated effluent in the dosing tank will be pumped to the subsurface drip dispersal field by a duplex pumping system.

Proposed Winery Sanitary Wastewater Disposal System

Bartelt Engineering proposes to dispose of the sanitary wastewater from the winery through the same septic system as the winery process wastewater. Winery sanitary wastewater will gravity flow to a septic tank for solids removal. From the septic tank, sanitary wastewater will gravity flow to a recirculation/blend tank where it will be combined with effluent from the process wastewater system's septic tank. The combined effluent in the recirculation/blend tank will be treated by a pretreatment system before being stored in a dosing tank. Treated effluent in the dosing tank will be pumped to the subsurface drip dispersal field by a duplex pumping system.

Proposed Residential Sanitary Wastewater Disposal System

An onsite underground septic system serves the existing residence at 1016 Las Amigas Road. The age, type and size of the existing septic system are unknown. The Applicant and the Engineer have agreed to size the proposed subsurface drip dispersal system to accept sanitary wastewater from the existing residence. Residential sanitary wastewater from the existing residence will gravity flow to a septic tank for solids removal. The existing septic tank will be inspected and utilized if appropriate. From the septic tank, the sanitary wastewater will gravity flow to a pump tank where it will be pumped to the combined effluent recirculation/blend tank. From the recirculation/blend tank, the effluent will be filtered through a pretreatment system before being stored in a dosing tank. The treated effluent in the dosing tank will be pumped to the subsurface drip dispersal field by a duplex pumping system.

Combined Effluent Subsurface Drip Disposal Field and Reserve Area

Based on the site evaluation performed by Bartelt Engineering on June 22, 2007, test pits #1, #2, #3, #7 through #14 and #16 showed similar results and are acceptable for a subsurface drip dispersal type septic system. The subsurface drip dispersal field and 200% reserve area will be located near test pits #9, #10 and #11 (see Conceptual Site Plan). The site evaluation determined that the soil in the area of these test pits is Silty Clay Loam. According to Napa County Standards, a hydraulic loading rate of 0.4 gal/sf/day is allowed for this soil type. The maximum acceptable depth found during the site evaluation was approximately 30 inches. Napa County Standards require a minimum of 24 inches of useable soil below the drip lines. The maximum acceptable soil depth found at the site allows for 24 inches of useable soil beneath drip emitters buried 3 inches below the ground surface with 3 inches of additional fill placed over the disposal field. The required disposal field area can be calculated as follows:

$$\text{Disposal Field Area} = \left(\frac{2{,}650\ \text{gal}}{\text{day}}\right)\left(\frac{\text{day}\ \ \text{ft}^2}{0.4\,\text{gal}}\right) = 6{,}625\ \text{square feet}$$

The disposal field area is based on two (2) foot lateral spacing between drip lines and two (2) foot emitter spacing.

The required number of emitters is calculated as follows:

$$\text{Required Number of Emitters} = 6{,}625\ \text{square feet} \times \frac{1\ \text{emitter}}{4\ \text{square feet}} = 1{,}656\ \text{emitters}$$

To make the best use of the available disposal field area we recommend the system consist of 40 lines that are 85 feet long for a total of 3,400 lineal feet of drip line. This layout provides 1,700 emitters. See the attached conceptual site plan for the system location.

Tank Sizing

The following table summarizes the underground storage tank requirements for the proposed subsurface drip dispersal septic system.

Septic Tank Wastewater Source	Peak Flow (gpd)	Retention Time (days)	Recommended Tank Capacity (gallons)
Process Wastewater	1,500	4	6,000
Winery Sanitary	625	3	2,000
Residential Sanitary	300	3	1,500
Recirculation/Blend	2,425	1.5	4,000
Dosing Tank	2,425	1.5	4,000
Kitchen Grease Interceptor	625	2	1,500

All septic tanks should have a Zabel A300 filter or approved equal installed at the outlet to aid in the screening of suspended solids and the reduction of BOD from the wastewater. All septic tanks should be sized to provide a minimum of three days retention time during peak wastewater flow.

A grease interceptor tank will be required for the proposed commercial kitchen and should be sized for a minimum retention time of two days.

The existing residential septic tank shall be inspected to determine if it meets the minimum 1,500 gallon size requirement. Due to the distance of the existing residence to the proposed drip dispersal field, the sanitary residential wastewater will need to be pumped to the recirculation/blend tank.

Both the recirculation/blend tank and the dosing tank should be sized for a minimum of one and a half days of peak flow capacity.

Conclusions

The Phase One Water Analysis shows that there is an adequate water allotment to support the addition of a 45,000 gallon per year winery on this parcel.

The parcel will be able to support the wastewater produced by the proposed 45,000 gallon winery and the existing residence utilizing a subsurface drip dispersal system.

The above calculations should be adequate for the Use Permit application to Napa County. Full design calculations and construction plans will be completed after approval of the Use Permit currently under consideration. If you have any questions regarding my recommendations please feel free to call me at (707) 258-1301.

Sincerely,

REGISTERED PROFESSIONAL ENGINEER
PAUL N. BARTELT
No. 45102
Exp. 09-30-10
CIVIL
STATE OF CALIFORNIA

Paul N. Bartelt, P.E.
Principal Engineer

PNB:sd

enclosures

cc: Armando Ceja
Donna Oldford

5.35 ac ft x 325851 = gallons/year
1,743,301 gal/yr. allotted

Ceja: Process Wastewater + Winery Sanitary
Reg Sanitary = 2,650 gpd x
365 = 967,250
gal/yr.

77,605 gal/yr. @ 55% capacity
remaining

07-23

Napa County Department of
Environmental Management

SITE EVALUATION REPORT

Please attach an 8.5" x 11" plot map showing the locations of all test pits triangulated from permanent landmarks or known property corners. The map must be drawn to scale and include a North arrow, surrounding geographic and topographic features, direction and % slope, distance to drainages, water bodies, potential areas for flooding, unstable landforms, existing or proposed roads, structures, utilities, domestic water supplies, wells, ponds, existing wastewater treatment systems and facilities.

Permit #: E07-00388 & -00389
APN: 047-240-003 & -016
(County Use Only) Reviewed by: Date:

PLEASE PRINT OR TYPE ALL INFORMATION

Property Owner Ceja, Pedro & Amelia, H/W ETAL (APN 047-240-003) Ceja, Armando C. and Martha B. ETAL (APN 047-240-016)	☐ New Construction ☐ Addition ☐ Remodel ☐ Relocation ☒ Other: See below
Property Owner Mailing Address 987 Leveroni Road	☒ Residential - # of Bedrooms: T.B.D. Design Flow : T.B.D. gpd
City: Sonoma State: CA Zip: 95476	☒ Commercial – Type: Winery Sanitary Waste: ~500 gpd Process Waste: 1,500 gpd
Site Address/Location 1016 Las Amigas Road, Napa, CA	☐ Other: Sanitary Waste: gpd Process Waste: gpd

Evaluation Conducted By:

Company Name Bartelt Engineering	Evaluator's Name Michael R. Muelrath, P.E.	Signature (Civil Engineer, R.E.H.S., Geologist, Soil Scientist) Michael R. Muelrath
Mailing Address: 1303 Jefferson Street, 200 B		Telephone Number (707) 258-1301
City: Napa State: CA Zip: 94559		Date Evaluation Conducted June 21, 2007

Primary Area

Acceptable Soil Depth: 24-36 in. Test pit #'s: 1-16

Soil Application Rate (gal. /sq. ft. /day): See below

System Type(s) Recommended: See below

Slope: 0-5%. Distance to nearest water source: 100 ft.+

Hydrometer test performed? No ☒ Yes ☐ (attach results)

Bulk Density test performed? No ☒ Yes ☐ (attach results)

Groundwater Monitoring Performed? No ☒ Yes ☐ (attach results)

Expansion Area

Acceptable Soil Depth: 24-36 in. Test pit #' : 1-16

Soil Application Rate (gal. /sq. ft. /day): See below

System Type(s) Recommended: See below

Slope: 0-5%. Distance to nearest water source: 100 ft. +

Hydrometer test performed? No ☒ Yes ☐ (attach results)

Bulk Density test performed? No ☒ Yes ☐ (attach results)

Groundwater Monitoring Performed? No ☒ Yes ☐ (attach results)

Site Constraints/Recommendations:

The property owner is planning to perform a lot line adjustment and to develop a new winery on the two parcels tested. It is planned that the existing residence on APN 047-240-016 will be converted to a tasting room or will be used as part of the proposed winery facility. The two existing residential structures on APN 047-240-003 will remain. It is planned that the two existing residential structures that are to remain will continue to be served by the two existing onsite disposal systems.

Test Pits #1 through #16 were excavated to locate an area to install a new septic system to dispose of the sanitary wastewater generated at the planned winery and also to locate the 100% Reserve Area for the existing residential structures that are to remain. The process wastewater will be pre-treated and used to irrigate the existing onsite vineyard. The soils encountered throughout the sixteen test pits were very uniform with an acceptable soil depth of 24 to 36 inches. These soils would be suitable for a drip type disposal system (Soil Application Rate = 0.4 gallons / square foot / day), a Wisconsin Mound type disposal system (Soil Application Rate = 0.35 gallons / square foot / day, Linear Loading Rate = 3 gallons / linear foot / day) or a Wisconsin At-Grade type disposal system (Soil Application Rate = 0.35 gallons / square foot / day, Linear Loading Rate = 3 gallons / linear foot / day). The owner has indicated that they would like to keep the existing vineyard and therefore we recommend that a drip type disposal system be installed. The vineyard in the area of the drip type disposal system should be hand farmed to eliminate traffic, compaction and tillage over the disposal field.

We have used the presence of faint mottling in the second soil horizon to determine the acceptable soil depth. Without further testing, we cannot rule out the presence of a seasonal high groundwater table. It may be possible to prove additional acceptable soil depth if groundwater monitoring is performed to verify seasonal groundwater conditions. Furthermore, it should be noted that the overall depth of the test pits was limited by the equipment used (mini excavator), not soil conditions.

Test Pit # 1

PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-36	C	0-15	SICL	MSB	SH	FRB	S/P	MF/MM	CM	None
36-48		0-15	SICL	MSB	SH	FRB	S/P	FF	FF	FFFt

Slope = 0-5%

No groundwater observed.

Test Pit # 2

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-36	C	0-15	SICL	MSB	SH	F	S/P	CF/CM	FF/FM	None
36-50		0-15	SICL	MSB	SH	VF	S/P	FF	FF	FFFt

Slope = 0-5%

No groundwater observed.

Test Pit # 3

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-36	C	0-15	SiCL	MSB	SH	F	S/P	CF/CM	FF/FM	None
36-48		0-15	SiCL	MSB	SH	VF	S/P	FF	FF	FFFt
Slope = 0-5%										
No groundwater observed.										

Test Pit # 4

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-24	C	0-15	SiCL	MSB	SH	F	S/P	CF/CM	FF/FM	None
24-48		0-15	SiCL	MSB	SH	VF	S/P	FF	FF	FFFt
Slope = 0-5%										
No groundwater observed.										

Test Pit # 5

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-27	C	0-15	SiCL	MSB	SH	F	S/P	CF/CM	FF/FM	None
27-55		0-15	SiCL	MSB	SH	VF	S/P	FF	FF	FFFt
Slope = 0-5%										
No groundwater observed.										

Test Pit # 6

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-27	C	0-15	SiCL	MSB	SH	F	S/P	CF/CM	FF/FM	None
27-48		0-15	SiCL	MSB	SH	VF	S/P	FF	FF	FFFt
Slope = 0-5%										
No groundwater observed.										

Test Pit # 7

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-33	C	0-15	SiCL	MSB	SH	F	S/P	CF/CM	FF/FM	None
33-48		0-15	SiCL	MSB	SH	VF	S/P	FF	FF	FFFt
Slope = 0-5%										
No groundwater observed.										

Test Pit # 8

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-32	C	0-15	SiCL	MSB	SH	F	S/P	CF/CM	FF/FM	None
32-48		0-15	SiCL	MSB	SH	VF	S/P	FF	FF	FFFt
Slope = 0-5%										
No groundwater observed.										

Test Pit # 9

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-30	C	0-15	SiCL	MSB	SH	F	S/P	CF/CM	FF/FM	None
30-48		0-15	SiCL	MSB	SH	VF	S/P	FF	FF	FFFt
Slope = 0-5%										
No groundwater observed.										

Test Pit # 10

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-32	C	0-15	SiCL	MSB	SH	F	S/P	CF/CM	FF/FM	None
32-48		0-15	SiCL	MSB	SH	VF	S/P	FF	FF	FFFt
Slope = 0-5%										
No groundwater observed.										

Test Pit # 11

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-32	C	0-15	SiCL	MSB	SH	F	S/P	CF/CM	FF/FM	None
32-48		0-15	SiCL	MSB	SH	VF	S/P	FF	FF	FFFt

Slope = 0-5%

No groundwater observed.

Test Pit # 12

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-32	C	0-15	SICL	MSB	SH	F	S/P	CF/CM	FF/FM	None
32-48		0-15	SICL	MSB	SH	VF	S/P	FF	FF	FFFt

Slope = 0-5%

No groundwater observed.

Test Pit # 13

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-30	C	0-15	SICL	MSB	SH	F	S/P	CF/CM	FF/FM	None
30-48		0-15	SICL	MSB	SH	VF	S/P	FF	FF	FFFt

Slope = 0-5%

No groundwater observed.

Test Pit # 14

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-30	C	0-15	SICL	MSB	SH	F	S/P	CF/CM	FF/FM	None
30-48		0-15	SICL	MSB	SH	VF	S/P	FF	FF	FFFt

Slope = 0-5%

No groundwater observed.

Test Pit # 15

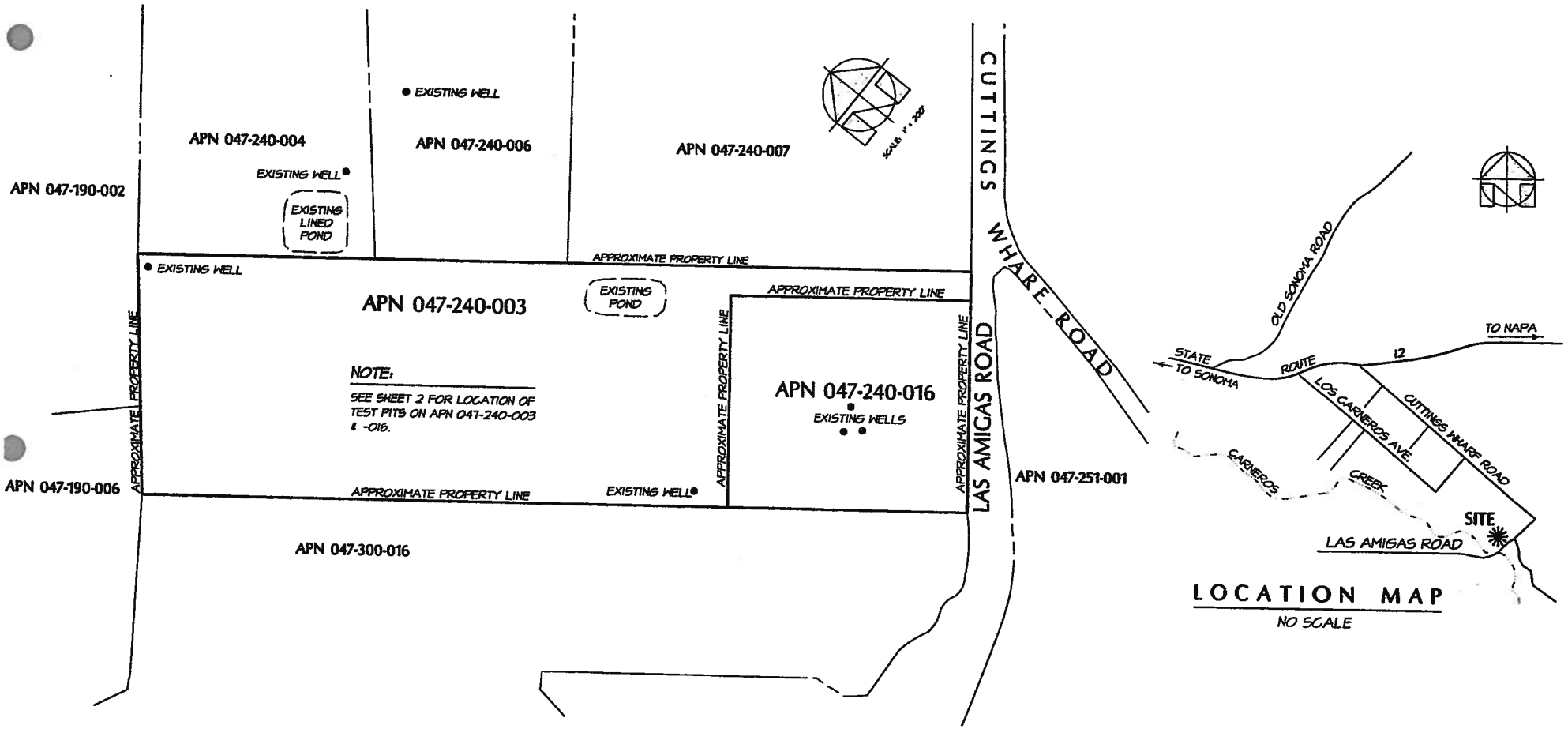
Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-28	C	0-15	SICL	MSB	SH	F	S/P	CF/CM	FF/FM	None
28-48		0-15	SiCL	MSB	SH	VF	S/P	FF	FF	FFFt
Slope = 0-5%										
No groundwater observed.										

Test Pit # 16

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling
					Side Wall	Ped	Wet			
0-32	C	0-15	SICL	MSB	SH	F	S/P	CF/CM	FF/FM	None
32-48		0-15	SiCL	MSB	SH	VF	S/P	FF	FF	FFFt
Slope = 0-5%										
No groundwater observed.										

Table of Abbreviations

Boundary	Texture	Structure	Consistence			Pores	Roots	Mottling
			Side Wall	Ped	Wet			
A=Abrupt <1" C=Clear 1"-2.5" G=Gradual 2.5"-5" D=Diffuse >5"	S=Sand LS=Loamy Sand SL=Sandy Loam SCL=Sandy Clay Loam SC=Sandy Clay CL=Clay Loam L=Loam C=Clay SiC=Silty Clay SICL=Silty Clay Loam SIL=Silt Loam Si=Silt	W=Weak M=Moderate S=Strong G=Granular PL=Platy Pr=Prismatic C=Columnar AB=Angular Blocky SB=Subangular Blocky M=Massive C=Cemented	L=Loose S=Soft SH=Slighly Hard H=Hard VH=Very Hard ExH=Extremely Hard	L=Loose VFRB=Very Friable FRB=Friable F=Firm VF=Very Firm ExF=Extremely Firm	NS=NonSticky SS=Slightly Sticky S=Sticky VS=Very Sticky NP=NonPlastic SP=Slightly Plastic P=Plastic VP=Very Plastic	**Quantity:** F=Few C=Common M=Many **Size:** VF=Very Fine F=Fine M=Medium C=Coarse	**Quantity:** F=Few C=Common M=Many **Size:** VF=Very Fine F=Fine M=Medium C=Coarse VC=Very Course	**Quantity:** F=Few C=Common M=Many **Size:** F=Fine M=Medium C=Coarse VC=Very Course ExC=Extremely Coarse **Contrast:** Ft=Faint D=Distinct P=Prominent



OVERALL SITE MAP

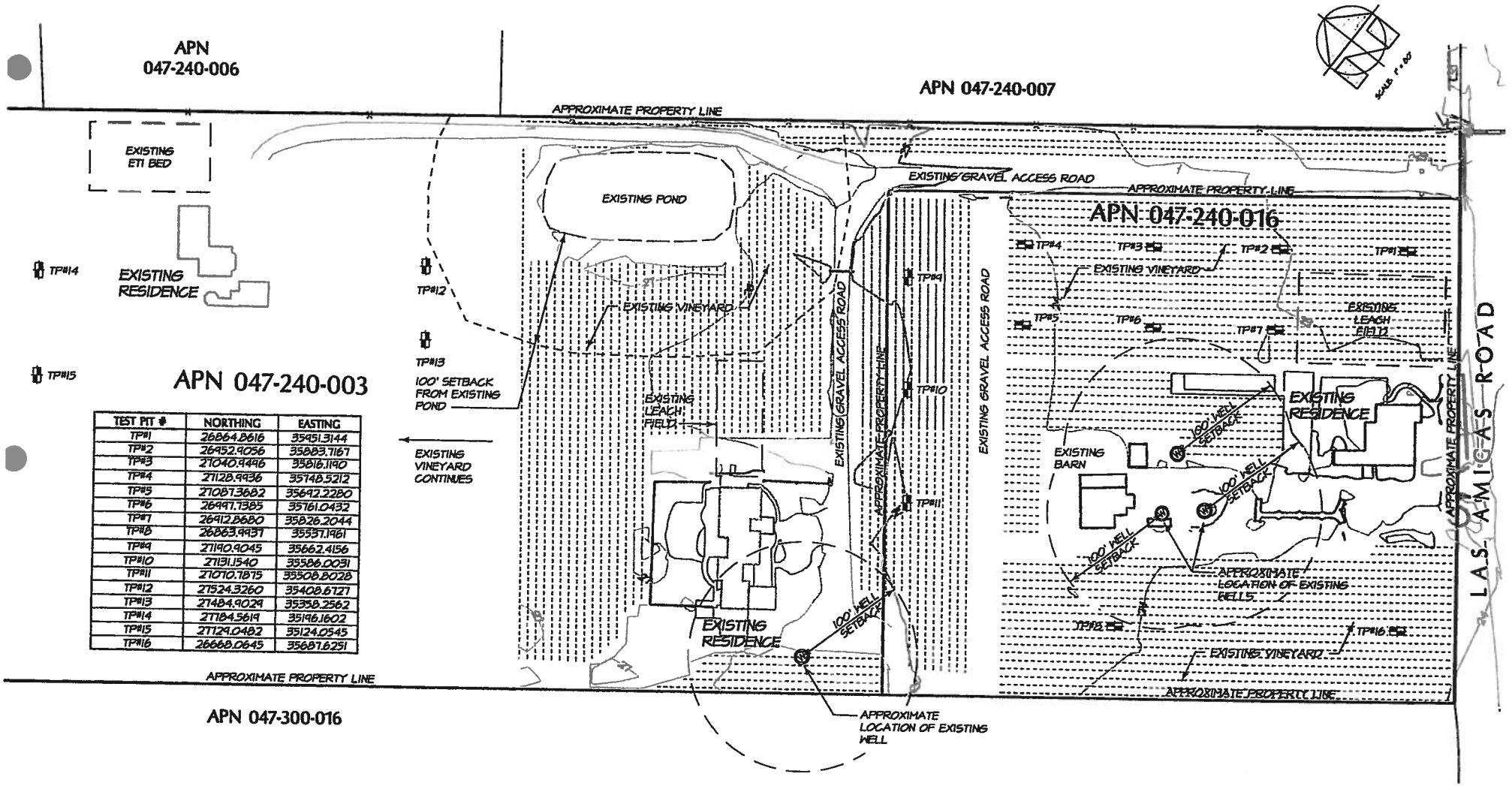
SCALE: 1" = 200'

LOCATION MAP

NO SCALE

BARTELT engineering
civil engineering · land planning
1303 Jefferson street, 200 B, napa, ca 94559
(707) 258-1301 · fax (707) 258-2926

Ceja Vineyards
1016 Las Amigas Road
Napa, CA 94559
APN 047-240-003 & -016
Job No. 07-23
March 2010
Sheet 1 of 2



APN 047-240-003

TEST PIT #	NORTHING	EASTING
TP#1	26864.2616	35451.3144
TP#2	26952.9056	35883.7167
TP#3	27040.4496	35816.1190
TP#4	27128.9936	35748.5212
TP#5	27087.3682	35692.2280
TP#6	26997.7385	35761.0432
TP#7	26912.2680	35826.2044
TP#8	26863.9931	35537.1961
TP#9	27190.9045	35662.4156
TP#10	27131.1540	35586.0031
TP#11	27070.7815	35508.8028
TP#12	27524.3260	35408.6727
TP#13	27484.9029	35358.2562
TP#14	27184.5619	35196.1602
TP#15	27129.0482	35124.0545
TP#16	26668.0645	35687.6251

TEST PIT LOCATION MAP

SCALE: 1" = 80'

TEST PIT EXPLORATION NOTES:

1. ⊟ REPRESENTS TEST PIT LOCATION.
2. TEST PITS 1-16 WERE EXCAVATED BY CEJA VINEYARDS WITH A MINI EXCAVATOR ON JUNE 22, 2007 AND WITNESSED BY A REPRESENTATIVE FROM BARTELT ENGINEERING AND NAPA COUNTY DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.

BARTELT engineering
civil engineering · land planning
1303 jefferson street, 200 B, napa, ca 94559
(707) 258-1301 · fax (707) 258-2926

Ceja Vineyards
1016 Las Amigas Road
Napa, CA 94559
APN 047-240-003 & -016
Job No. 07-23
March 2010
Sheet 2 of 2

PHASE I
WATER AVAILABILITY ANALYSIS

March 2, 2010 (Revised)
#07-23

Kevin Berryhill
Napa County Public Works Department
1195 Third Street, Room 201
Napa, CA 94559

Re: Phase One Water Availability Analysis for the Ceja Winery, 1016 Las Amigas Road, Napa County, California, APN 047-240-016

Dear Mr. Berryhill:

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 Ceja Winery Use Permit 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 and proposed structures is shown on the enclosed Conceptual Site Plan prepared by Bartelt Engineering, dated March 2010. 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 two new winery buildings will be constructed and that the proposed winery will be a full crushing facility with a production of 45,000 gallons of wine per year. The proposed winery staff will consist of 10 full-time employees and 5 seasonal (harvest) employees. The Applicant intends to establish a private tasting room with tours and tastings; additionally, the Applicant plans to hold food and wine pairings and other special events at the winery. The following is a summary of the proposed marketing plan:

Description	Frequency	Number of Visitors
Private Tours & Tastings	4 per day	6 per tour
Food & Wine Pairings	4 per month	20 per event
Wine Club Events	4 per year	50 per event
Auction Related Events	2 per year	125 per event

It is planned that Private Tours and Tastings, Food and Wine Pairings, Wine Club Events and Auction Related Events will not be held on the same day. The proposed winery will contain a commercial kitchen capable of catering food for up to 125 people.

Currently, the 10.42 ± acre parcel (APN 047-240-016) is planted with 7.6 ± acres of vineyard of which 1.6 ± acres will be removed as part of the proposed development.

Projected Water Consumption

The total water consumption for the existing and proposed uses on the parcel are calculated below using quantities provided in the staff report from County of Napa Public Works Department.

Current Water Use Using Napa County Interim Policy

Primary Residence (Two Bedroom House)	0.75 acre-feet/year
Commercial (Vineyard Office & Tasting Room - 10 Employees)	0.10 acre-feet/year
Vineyard (7.6 acres – No Heat or Frost Protection)	3.80 acre-feet/year
Other Agriculture (Olive Orchard approximately 0.10 acre)	0.40 acre-feet/year
Total	5.05 acre-feet/year

Projected Water Use Calculations Using the Bartelt Engineering Wastewater Disposal Feasibility Study and Napa County Interim Policy

Primary Residence (Two Bedroom House)	0.75 acre-feet/year
Vineyard (6.0 acres – No Heat or Frost Protection)	3.00 acre-feet/year
Other Agriculture (Olive Orchard approximately 0.10 acre)	0.40 acre-feet/year
Winery (45,000 Gallons of Wine per Year)	1.20 acre-feet/year
Total	5.35 acre-feet/year

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

1.0 acre-feet/acre of site – valley floor areas

The following calculation assumes that the entire 10.42 acre parcel lies in an area designated as valley floor.

Acceptable water use = 10.42 acres x 1.0 acre-feet/year = 10.42 acre-feet/year

The above analysis shows that the projected water usage will be more than the current water usage but meets the acceptable threshold water usage for the subject parcel.

Existing Water Source and Storage Capacity

According to the Property Owner, the three onsite wells are capable of producing a total flow rate of approximately 60 gallons per minute (gpm). Well water will be used to satisfy irrigation, domestic, winery, and fire protection requirements. Ground water will be pumped from the existing wells into new onsite storage tanks per County of Napa and/or California Department of Forestry Standards (size and quantity of tanks to be determined at a later date).

Summary and Conclusions

The estimated water demand for the proposed Ceja Winery development at 1016 Las Amigas Road is projected to meet 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,

Paul N. Bartelt, P.E.
Principal Engineer

PNB:sd

Enclosures

cc: Armando Ceja
Donna Oldford

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

COUNTY of NAPA

DONALD G. RIDENHOUR, P.E.
Assistant Director of Public Works

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:

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

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 Parcel Number(s)	Parcel Size (A)	Parcel Location Factor (B)	Allowable Water Allotment (A) X (B)
047-240-016	**10.42 acres**	**1.0**	**10.42 acre-feet/year**

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	0.75 af/yr	Residential	0.75 af/yr
Farm Labor Dwelling	-0- af/yr	Farm Labor Dwelling	-0- af/yr
Winery	-0- af/yr	Winery	1.20 af/yr
Commercial	0.10 af/yr	Commercial	-0- af/yr
Vineyard*	3.80 af/yr	Vineyard*	3.0 af/yr
Other Agriculture	0.40 af/yr	Other Agriculture	0.40 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:	5.05 af/yr	**TOTAL:**	5.35 af/yr
TOTAL:	1,645,396 gallons**	**TOTAL:**	1,743,142 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 (X) 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.
Please see attached letter regarding Phase One Water Availability Analysis for the Ceja Winery prepared by Bartelt Engineering dated March 2010.

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:** 3-18-10 **Phone:** 707 258 1301

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

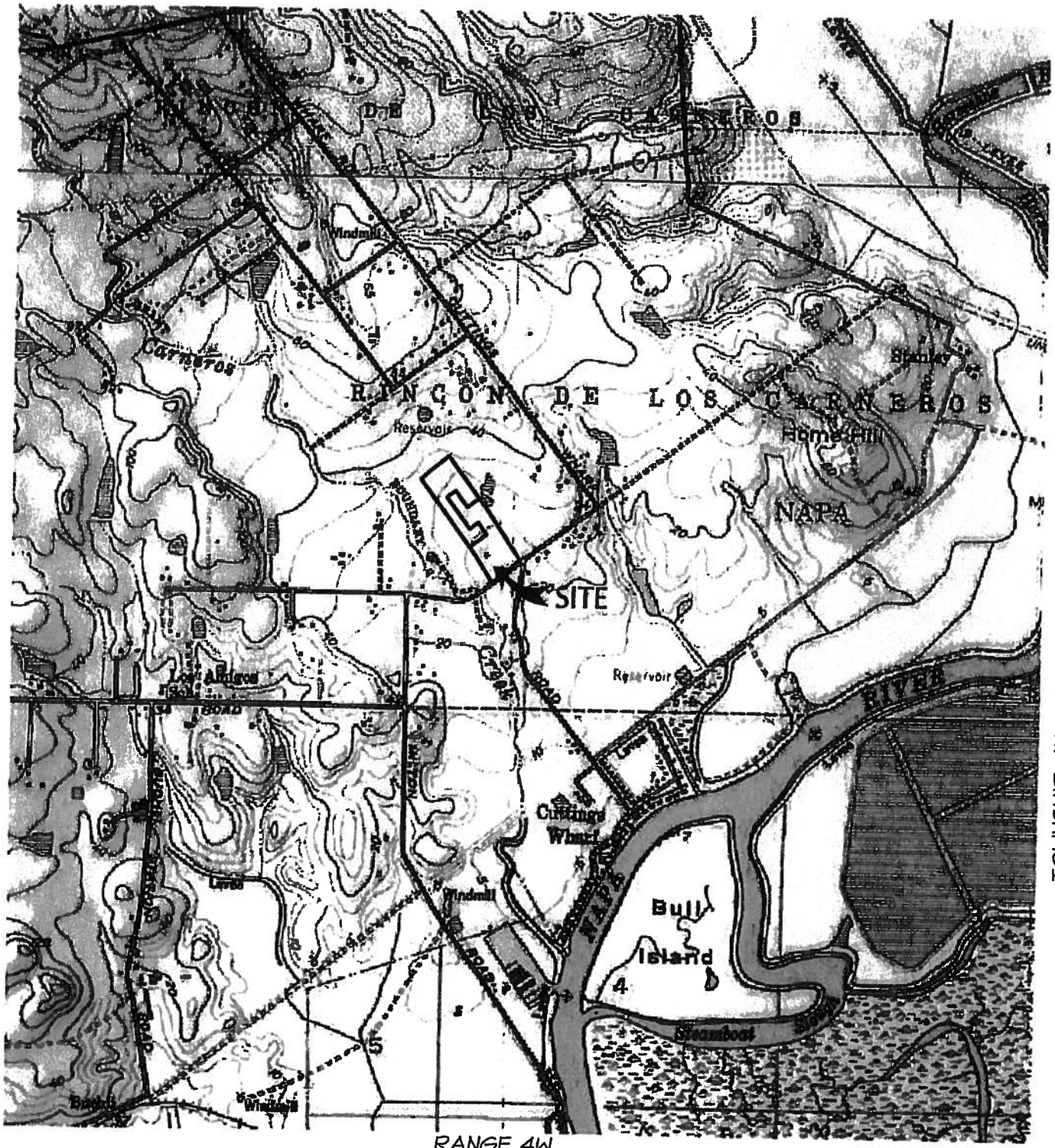
Non-Residential Guidelines:

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

TOPOGRAPHIC SITE LOCATION INFORMATION

USGS 7.5 MINUTE QUADRANGLE "CUTTINGS WHARF"

Scale: 1" = 2000'



BARTELT engineering

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Ceja Vineyards
1016 Las Amigas Road
Napa, CA 94559

APN 047-240-036 & 037

Job no. 07-23

March 2010

Hornisher, Trish

From: Paul Bartelt [PaulB@barteltengineering.com]
Sent: Wednesday, May 12, 2010 3:57 PM
To: Hornisher, Trish
Cc: dboldford@aol.com
Subject: Ceja Winery
Attachments: Trip Calc For Ceja-updated.pdf

Trish and Donna:

There are currently three wells on the Ceja winery parcel. Well #3 was drilled in June 2009 and produces 30 gpm. Well #3 has a 50 foot seal and therefore can be use for the transient non-community water system. All three wells produce 60 gpm total.

We have reviewed the traffic document and revised it to read 45,000 gallon per year and have adjusted the traffic numbers accordingly.

This should clarify these two issues. <<Trip Calc For Ceja-updated.pdf>>

Paul N. Bartelt, P.E.
Principal Engineer

Bartelt Engineering
1303 Jefferson Street, 200 B
Napa, CA 94559

707.258.1301 telephone
707.258.2926 facsimile
paulb@barteltengineering.com

July 2, 2009
Job# 07-23

BARTELT engineering

NEW COMMUNITY AND NON-COMMUNITY WATER SYSTEMS

Technical, Managerial and Financial Capacity Worksheet

(Use Permit Applications and Financial Capacity Worksheet)

1. **Water System Name:** Ceja Winery Water System located at 1016 Las Amigas Road, Napa, CA, APN 047-240-016

2. **Name of person(s) who prepared the report:** Paul N. Bartelt, P.E., Principal Engineer, Bartelt Engineering

3. **Technical Capacity**

(A) **System Description:** Under Napa County Department of Environmental Management guidelines, the Ceja Winery will be required to operate and maintain a transient non-community water system. See the Onsite Wastewater Disposal Feasibility Study for the Ceja Winery, Prepared by Bartelt Engineering on July 2009 for the proposed marketing plan for the Ceja Winery. The potable water source for the project is a new groundwater well which was completed by Bill Pulliam on June 15, 2009. The new groundwater well has a 51-foot annular seal. Groundwater will be extracted from the well, treated at the source to the required level for potable water, then stored in onsite water storage tanks before being conveyed to onsite facilities. A total of three (3) wells exist on the parcel (APN 047-240-016). The existing onsite wells will provide untreated water for landscape irrigation and emergency fire protection purposes. Landscape irrigation and fire protection water will be isolated from the treated water by a double check valve if required.

Water service connections will be at the proposed winery building and at the existing residence located onsite. Additional connections may be provided for landscape irrigation. The water treatment equipment will most likely include two 5-micron filters in parallel, a calcite filter, a water softener, ultraviolet radiation treatment and pH analyzer and a storage tank. Equipment requirements may vary based on water sampling report. If a water treatment system is found to be required during the use permit process, then the location of water system structures will be shown on the forthcoming improvement plans.

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land planning
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napa, california 94559
(707) 258-1301
(707) 258-2926 fax

The operations plan for the system may include the following components and tasks:

- Routine Operational Procedures for each component of the system:

A. Visual inspection of **WELL HEAD** (daily).
   1. Check for the following; leaks, openings, lubricants, electrical hazards, chemical hazards, etc. (record observations and correct problem).

B. Visual inspection of the **STORAGE TANK** (daily).
   1. Inspect for any leaks or damage (record observations and repair as needed).
   2. Check the **PUMP** for proper operation.
   3. Check **PRESSURE GAUGE**; record system pressure. Record the pressure the pump turns on, the pressure the pump turns off and the duration of the run time.
   4. Cleaning of **STORAGE TANK** (semi-annually). Record date cleaned and observations.

C. Maintenance of **GAUGES and METERS.**
   1. Inspect all gauges and meters for leaks and proper function daily. Repair or replace as needed (keep record of date).

D. Inspection and exercising of the **VALVES.**
   1. Inspect valves for leaks (record observations, repair or replace if leaking).
   2. Exercise valves (semi-annually, record date).

E. Operation and maintenance of **DISTRIBUTION** facilities.
   1. Visually inspect the distribution system for leaks on a regular basis. Record date and observations.
   2. Flush dead end mains (semi-annually, record date and observations).

- Monitoring and Reporting.

A. **BACTERIOLOGICAL MONITORING**; As per approved Sample Siting Plan, required monthly, report to the Department by the 10th of each month, following the sample.
   1. If sample positive, take four repeat samples at once.
   2. Take five routine samples the month following a positive sample.
   3. Keep bacteriological results for five years.
   4. Keep any corrective action for sampling for three years.

B. **CHEMICAL MONITORING**; as required by the Department, forward results to the Department.
   1. Keep chemical results for ten years.
   2. Keep variance and exemptions for five years.

- Response to violations.

  A. **PUBLIC NOTIFICATION** of violation required.
  1. Notification shall be given as per "Emergency public notification" method on record with the Department, or In a manner directed by the Department.
  2. State problem and what has been done to correct it.
  3. Send a copy of the notification to the Department.

- Consumer complaint response procedures.

  A. **CONSUMER COMPLAINT** procedures,
  1. Record in complaint log (name, address and nature of the problem).
  2. Investigate the complaint.
  3. Verify or dismiss the complaint.
  4. Record the steps taken to address or correct the problem.
  5. Notify complainant of action taken.
  6. Keep complaint records with corrective action for five years.

(B) **Ten Year Projection:** The ten year projection for water demand is feasible. The current water availability from the new well is 30 gallons per minute. A water feasibility study filed with the Applicant's Use Permit concludes that there is adequate water available to meet the needs of the winery and associated water use, as proposed.

Source Adequacy

- **Groundwater:** The newly installed well was completed with a 51-foot seal. Two other wells exist on the parcel and were completed with less than a 50-foot annular seal. Well logs are available.

- **Surface Water Treatment:** All water sources are groundwater wells, so no surface water treatment is anticipated.

- **Water Supply Capacity:** The water system can supply the minimum 3 gallons per minute for at least 24 hours for each service connection. The newly installed well delivers 30 gallons per minute. A total of no more than two (2) separate water service connections are anticipated for the water delivery system. Treated water will be stored in tanks to provide additional water during peak demands.

- **Water Quality:** The groundwater sample results from the new groundwater well are available and will be forwarded to Napa County Department of Environmental Management as part of the Public Water Company filing, should this be required after a review of these and other materials associated with the Use Permit. With the appropriate water treatment system, there should not be a problem with meeting the standards associated with established drinking water standards.

- **Consolidation with Other Water Systems:** The closest large scale water systems are operated by the City of American Canyon and the City of Napa. Neither of these system are within the vicinity of the proposed water system for the Ceja Winery. It is infeasible to consolidate with any existing water systems at this time. If water service is provided by a community water system in the future, then the onsite well will continue to be utilized for wine production only. Water service provided by another community water system would be utilized for domestic and emergency fire suppression. There is no anticipated consolidation with other (existing) water systems and no other water systems exist on or near the site.

4. Managerial

(A) **Organizational Ability:** The water system will be managed by an employee(s) of the winery that has received the requisite training and certification required to oversee the system. Management of the water system will be part of the job description of the winery employee(s) so assigned. The employee(s) working with the system will attend classes in distribution systems for certification at Solano Community College (or other suitable school) and will maintain a working knowledge of changes in codes and requirements associated with the water system. A certified operator will be retained to oversee the water system, either through hiring of winery personnel or retention of a private firm with the appropriate credentials. Routine water testing of the system will be conducted twice yearly or as required by Napa County and/or the State of California.

In the event that routine testing (or by other method) provides evidence of contamination in the water system, all guests, visitors and employees served by the system will be notified immediately in several ways. The first method will be by verbal communication and the second will be by signage at all distribution points. Remedial measures will be taken immediately upon receipt of evidence of contamination. This will be followed by testing and follow up to confirm that the contamination problem has been rectified and the water determined safe for human consumption. Potential users onsite will be verbally notified and all signage removed only when the water quality has been restored to required levels and confirmed via follow up test results.

(B) **Water Rights:** The water rights of the well will belong exclusively to the Property Owner. There are no additional water rights or rights to water from existing streams or rivers.

5. **Financial:** It is estimated that the total operating and installation costs associated with the water system for the first year will be approximately $70,000 including employee allocated time, training, facilities and maintenance.

The water company will generate no revenue of its own. Its expenses are covered as part of the general fund for winery operations. Most of the capital expenditures over a 10 year period will be minor. Annual maintenance and repair will be accomplished by onsite winery personnel, assisted by a private operation (such as Oakville Pump) and will be covered in the winery general fund. The expenses associated with water testing will also be covered as part of the general fund. Tests will be conducted by a private testing company (such as CalTest or Brelje and Race Laboratory).

Line item costs associated with the water system are estimated as follows:

Sampling and testing: $200 per month (twice annual testing spread over one year)

Contractors (as needed): Average $500 per month.

Hourly breakdown per month for onsite staff time: $ 800 or average 10 hrs/week = 40 hrs/mo.

Total Operating Costs: Approximately $1,450 per month or $17,000 per year

Following approval of the winery Use Permit request, the Applicant understands that the Napa County Department of Environmental Management may require a Public Water System Plan, including emergency plans, to be filed and approved by Napa County Department of Environmental Management prior to issuance of any building permits associated with the winery.

ORIGINAL
File with DWR

Page ___ of ___

Owner's Well No. 6-9-09

Date Work Began 6-9-09 Ended 6-15-09

Local Permit Agency Napa County

Permit No. E09-00094 Permit Date 6-1-09

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 1073676

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

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DRILLING METHOD rotary FLUID mud

DEPTH FROM SURFACE FL.	to FL.	DESCRIPTION (Describe material, grain size, color, etc.)
0	45	clay
45	65	gravel & boulders
65	150	Joint clay
150	170	Sticky clay

TOTAL DEPTH OF BORING 170 (Feet)
TOTAL DEPTH OF COMPLETED WELL 170 (Feet)

WELL OWNER

Name Pedro & Amelia Celia
Mailing Address 1012 Las Amigas Rd.
City Napa State Ca. ZIP 94559

WELL ADDITION

Address Las Amigas Rd.
City Napa
County Napa
APN Book ___ Page ___ Parcel 047-240-037
Township ___ Range ___ Section ___
Lat ___ N Long ___ W
DEG. MIN. SEC. DEG. MIN. SEC.

LOCATION SKETCH

NORTH
WEST — well — 200' — Las Amigas Rd. — Cutting Way — EAST
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 (✓)

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

USES (✓)

WATER SUPPLY
___ 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 45 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 20' (Ft.) & DATE MEASURED 6-15-09
ESTIMATED YIELD * 30 (GPM) & TEST TYPE bail
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN 50 (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	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	51	11"	X				PLASTIC	5"	.200	
51	53	10"	X				"	"	"	
53	170	10"		BACK			PREF	"	"	3/32

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	51	X			
51	170				WELL PACK

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 Pulliam Well Drilling
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

ADDRESS 2877 Piedmont Av. CITY Napa STATE Ca. ZIP 94558

Signed Bill Pulliam
C-57 LICENSED WATER WELL CONTRACTOR

DATE SIGNED 6-16-09 C-57 LICENSE NUMBER 248677

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

OSP 03 7883

ORIGINAL
File with DWR
Page ___ of ___
Owner's Well No.
Date Work Began 6-9-09 Ended 6-15-09
Local Permit Agency Napa County
Permit No. E09-0881.94 Permit Date 6-1-09

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet
No. 1073676

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

GEOLOGIC LOG

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

DEPTH FROM SURFACE Ft. to Ft.	DESCRIPTION (Describe material, grain size, color, etc.)
0 45	Clay
45 65	gravel & boulders
65 150	Joint Clay
150 170	Sticky Clay

TOTAL DEPTH OF BORING 170 (Feet)
TOTAL DEPTH OF COMPLETED WELL 170 (Feet)

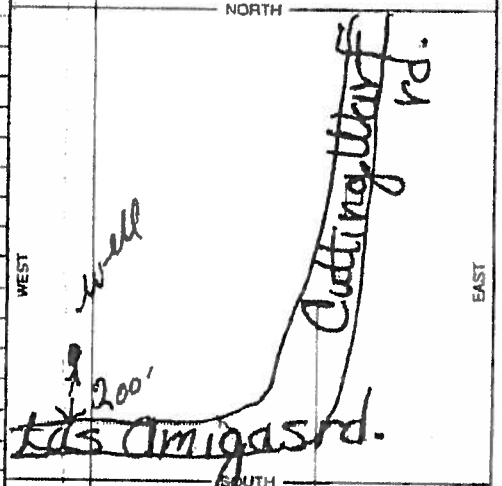
WELL OWNER

Name Pedro & Amelia Ceja
Mailing Address 1012 Las Amigas Rd.
City Napa State Ca. ZIP 94559

WELL LOCATION

Address Corr Las Amigas Rd.
City Napa
County Napa
APN Book ___ Page ___ Parcel ___
Township ___ Range ___ Section 047-240-037
Lat ___ DEG. ___ MIN. ___ SEC. N
Long ___ DEG ___ MIN. ___ SEC W

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
___ 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 45 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 20' (Ft.) & DATE MEASURED 6-15-09
ESTIMATED YIELD 30 (GPM) & TEST TYPE Bail
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN 50 (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	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0 51	11"	X				PLASTIC	5"	200	
51 53	10"	X				"	"	"	
53 170	10"		Factory			PREF	"	"	3/32

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft. to Ft.	TYPE: CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0 51	X			
51 170				Well Rock

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 Pallia H Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 2877 Piedmont Av. CITY Napa STATE Ca. ZIP 94558
Signed Bill Pallia (C-57 LICENSED WATER WELL CONTRACTOR)
DATE SIGNED 6-16-09
C-57 LICENSE NUMBER 248677

DWR 188 REV. 03-03
IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM
OSP 03 7883

Hornisher, Trish

From: Paul Bartelt [PaulB@barteltengineering.com]
Sent: Wednesday, May 12, 2010 3:57 PM
To: Hornisher, Trish
Cc: dboldford@aol.com
Subject: Ceja Winery
Attachments: Trip Calc For Ceja-updated.pdf

Trish and Donna:

There are currently three wells on the Ceja winery parcel. Well #3 was drilled in June 2009 and produces 30 gpm. Well #3 has a 50 foot seal and therefore can be use for the transient non-community water system. All three wells produce 60 gpm total.

We have reviewed the traffic document and revised it to read 45,000 gallon per year and have adjusted the traffic numbers accordingly.

This should clarify these two issues. <<Trip Calc For Ceja-updated.pdf>>

Paul N. Bartelt, P.E.
Principal Engineer

Bartelt Engineering
1303 Jefferson Street, 200 B
Napa, CA 94559

707.258.1301 telephone
707.258.2926 facsimile
paulb@barteltengineering.com

HYDROLOGY REPORT

Stormwater Runoff Management Plan

Ceja Winery
1016 Las Amigas Road
Napa County, California
March 2, 2010

This project proposes to develop a winery at 1016 Las Amigas Road in Napa County, California. The proposed winery will be a full crush facility with the capacity to produce 45,000 gallons of wine per year. The existing site features consist of vineyards, a two-bedroom house, a barn and two sheds. The proposed project will include the demolition of the barn and sheds and the construction of a winery, paved access roads, and an onsite wastewater disposal system.

The following table summarizes the existing and proposed impervious surfaces for the project:

	Existing Impervious Area (square feet)	Proposed Impervious Area (square feet)
Existing House	2,650	2,650
Other Buildings	2,350	0
Proposed Winery	0	27,857
Patio (7,644 sf)	0	Pervious
Walkway	0	670
Asphalt Parking/Driveway	0	35,328
Concrete Work Area and Driveway	0	9,867
Water Tank	0	1,000
Total (square feet)	5,000	77,372
Total (acre)	0.11	1.78

Drainage Study:

A drainage study for the Ceja Winery project was completed following the Napa County Post-Construction Runoff Management Requirements. According to the attached Applicability Checklist, the proposed project is a Standard Project.

The drainage area flowing through the project site was estimated based on Napa County Geographic Information Services Topographic Information. The drainage area was estimated to be 70 acres as shown on the attached Drainage Study Exhibit. The soil type was determined based on the Napa County Soil Survey and was found to be 118-Cole Silt Loam, 0 to 2 percent slopes. The soil hydrologic group for Cole Silt Loam is Group C. According to the TR-20 drainage study results

the increase of 1.67 acres of impervious area does not significantly increase the stormwater runoff volume for the 2-year, 24-hour storm event. Please see the attached TR-20 drainage study results for more information about drainage study parameters and results. According to the TR-55 drainage study results, the increase of 1.67 acres of impervious area does not significantly increase the peak stormwater runoff flowrate for the 2-year, 24-hour storm event. Please see the attached TR-55 drainage study results for more information about drainage study parameters and results.

The vegetation surrounding the proposed project footprint is vineyard with cover crop. The areas immediately adjacent to the proposed buildings and driveways will be landscaped and drain into vegetated swales. All swales have been designed to maintain bank stability. The swales will be approximately 1 foot deep with 3:1 sidewalls.

Anticipated Activities and Pollution Sources:

See the Source Control BMP Selection Worksheet (Appendix E) attached. The following is a list of the anticipated pollution sources for the proposed project:

- Roads and driveways
- Parking areas
- New or reconstructed stormwater conveyance systems
- Open channels
- Landscaping
- Trash storage areas
- Roofs, gutters and downspouts
- Loading and unloading dock areas
- Outdoor material storage areas
- Processing areas
- Food service equipment cleaning
- Interior floor drains

Stormwater Conveyance Systems:

As shown on the attached site map, the stormwater conveyance systems will consist of several culverts, open vegetated drainage swales and sheet flow over the site.

The site is extremely flat and therefore will require the drainage swales to be installed at a slope of 0.5% with a depth of 1 foot. The drainage swales will be located at the northeast and southwest property lines to convey stormwater to the existing drainage swales located along Las Amigas Road.

The site is not located within the National Flood Insurance Program, 100-year flood zone and floodway.

Existing vegetation between the stormwater conveyance system and the project footprint consists of vegetated landscaped areas, vegetated swales and vineyard with cover crop. Proposed impervious areas will drain into landscaped areas, culverts, vegetated swales or sheet flow through vineyards. Vineyards and cover crop encompass the entire watershed area accept for very small amounts of landscaping and olive trees which are located around the existing buildings as shown on the conceptual site plan. Vegetated vineyards usually maintain a minimum cover of 75%.

The existing and proposed swales are designed to meet standard BMP swale characteristics. The site is very flat and the side slopes of the swales will be 3:1 or flatter. Bank stability for this typical swale design is very high with very low risk of erosion. Swales will be installed with erosion control blankets and/or seeded to further improve bank stability.

Site Design BMPs and Source Control BMPs

The following design guidelines are encouraged by Napa County:

- Reducing imperviousness (such as, new surface parking lots), preserving and/or enhancing vegetation adjacent to receiving waters, using natural drainage courses in the stormwater conveyance system, and minimizing clearing and grading
- Providing runoff storage measures dispersed throughout a site's landscape with the use of a variety of infiltration, retention, and detention runoff practices
- Implementing hydrologically functional landscape design and management practices

Site Design BMPs:

As stated above, the drainage study indicates that no significant increase in stormwater runoff volume or flowrate is anticipated due to the proposed development. The following site design BMPs are suggested for implementation during the proposed project:

- Pervious pavement for walkways, patios and some parking.
- Utilization of natural drainage ways.
- Impervious areas and rooftop downspouts should drain to vegetated areas.
- Vegetated swales for stormwater conveyance system.
- Maintain landscaped areas and vineyard cover crop.

Source Control BMPs:

Roads and Driveways
Roads and driveways have been designed to meet the minimum requirement of the Napa County Road and Street Standards. Runoff from roads and driveways will be directed to vegetated areas before draining off site.

Parking Areas
Some parking areas may be constructed with pervious pavement. Stormwater draining from the parking areas will drain through landscaped areas vegetated swales or vineyards before draining offsite.

New or Reconstructed Stormwater Conveyance Systems
Energy dissipaters will be installed at all stormwater conveyance system outlets as required. All drainage swales will be lined with vegetation to protect from erosion and for stormwater treatment requirements.

Landscaping
Landscaping will be designed to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. If landscaped areas are used to detain or retain stormwater, the design should use plant species that are tolerant of saturated soil conditions. Plants shall be selected considering pest-resistance, soil types, and climate conditions.

Trash and Recycling Storage Areas
Trash and recycling storage areas will be constructed according to the City of Napa Solid Waste and Recycling Enclosure Standards. Trash and recycling enclosures will be graded and covered to prevent excess rainwater from entering the area.

Roofs, Gutters and Downspouts
Stormwater runoff from rooftops and downspouts will drain through vegetated areas to promote sediment removal and infiltration.

Processing Areas
Winery processing areas and food service equipment cleaning should be done in a covered area to prevent rainwater intrusion. Winery processing and food service equipment cleaning areas will drain to floor drains where the wastewater will be directed through the proposed onsite wastewater treatment system.

Food Service Equipment Cleaning
The commercial kitchen will be equipped with an area for cleaning floor mats, containers and equipment that is connected to a grease interceptor prior to discharging to the wastewater treatment system. The cleaning area will be indoors or in a covered outdoor area and be plumbed to the wastewater treatment system.

Interior Floor Drains

Interior floor drains will be plumbed to the wastewater treatment system.

Conclusions:

The proposed development of Ceja Winery will not increase the overall stormwater runoff volume for the 2-year, 24-hour storm event. The project will be designed with adequate stormwater BMPs to prevent stormwater pollution and treat stormwater through the use of landscaped areas, vegetated swales and vineyards.

Ceja Winery
07-23

Ceja Winery Stormwater Study Results Summary

Study Watershed Area (acres)	70

TR-20 2-Year, 24-Hour Stormwater Runoff Volume Analysis Results

Existing Condition Stormwater Runoff Volume (inches)	2.936
Proposed Condition Stormwater Runoff Volume (inches)	2.936

TR-55 2-Year, 24-Hour Stormwater Runoff Flowrate Analysis Results

Existing Condition Flowrate (cubic feet per second)	39.52
Proposed Condition Flowrate (cubic feet per second)	39.52

Ceja Winery

TR-20 Ceja Existing

Existing Conditions

Name of printed page file:
TR20.out

STORM 2-Yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow Elevation (ft)	Peak Flow Time (hr)	Peak Flow Rate (cfs)	Peak Flow Rate (csm)
Pre Develo	0.109		2.936		8.34	39.52	361.31

Ceja Winery

TR-20 Ceja Proposed

Proposed Conditions

Name of printed page file:
TR20.out

STORM 2-Yr

Area or Reach Identifier	Drainage Area (sq mi)	Rain Gage ID or Location	Runoff Amount (in)	Peak Flow			
				Elevation (ft)	Time (hr)	Rate (cfs)	Rate (csm)
Post Devel	0.109		2.936		8.34	39.52	361.31

WinTR-55 Current Data Description

--- Identification Data ---

User: Rangel G - Bartelt Engineering
Project: Ceja Winery
SubTitle: Existing Conditions
State: California
County: Napa
Filename: T:\Land Projects\0723\SRMP\Ceja Existing.w55

Date: 5/4/2009
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
Pre Develo		Outlet	70	85	.794

Total area: 70 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	-Yr (in)
4.53	5.5	6.0	8.0	9.0	10.02	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type IA
Dimensionless Unit Hydrograph: <standard>

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 2-Yr (cfs) (hr)
SUBAREAS	
Pre Develo	39.52 8.34

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
Pre Develo							
SHEET	100	0.0050	0.170				0.264
SHALLOW	2175	0.0050	0.050				0.530
						Time of Concentration	.794

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use		Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
Pre Develo	Paved parking lots, roofs, driveways		C	.5	98
	Legume/Rot. Meadow	Straight row (poor)	C	69.5	85
	Total Area / Weighted Curve Number			70	85

WinTR-55 Current Data Description

--- Identification Data ---

User: Rangel G
Project: Ceja Winery
SubTitle: Proposed Conditions
State: California
County: Napa
Filename: T:\Land Projects\0723\SRMP\Ceja Proposed.w55

Date: 6/4/2009
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
Post Devel		Outlet	70	85	.794

Total area: 70 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	-Yr (in)
4.53	5.5	6.0	8.0	9.0	10.02	.0

Storm Data Source: User-provided custom storm data
Rainfall Distribution Type: Type IA
Dimensionless Unit Hydrograph: <standard>

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 2-Yr (cfs) (hr)
SUBAREAS	
Post Devel	39.52 8.34

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
Post Devel							
SHEET	100	0.0050	0.170				0.264
SHALLOW	2175	0.0050	0.050				0.530
						Time of Concentration	.794

Rangel G

Ceja Winery
Proposed Conditions
Napa County, California

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use		Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
Post Devel	Paved parking lots, roofs, driveways		C	2.03	98
	Legume/Rot. Meadow Straight row	(poor)	C	67.97	85
	Total Area / Weighted Curve Number			70	85

NAPA COUNTY POST-CONSTRUCTION RUNOFF MANAGEMENT REQUIREMENTS
APPENDIX A – APPLICABILITY CHECKLIST

Post-Construction Runoff Management Applicability Checklist	County of Napa Department of Public Works 1195 Third Street Napa, CA 94559 (707) 253-4351 for information

Project Address:	Assessor Parcel Number(s):	Project Number: *(for County use Only)*
1016 Las Amigas Road, Napa County, CA 94559	047-240-037	

Instructions:

Structural projects requiring a use permit, building permit, and/or grading permit must complete the following checklist to determine if the project is subject to the Post-Construction Runoff Management Requirements. In addition, the impervious surface worksheet on the reverse page must also be completed to calculate the amount of new and reconstructed impervious surfaces proposed by your project. This form must be completed, signed, and submitted with your permit application(s). Definitions are provided in the Post-Construction Runoff Management 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.

POST-CONSTRUCTION STORMWATER BMP REQUIREMENTS (Parts A and B)

- ✓ If any answer to Part A are answered "yes" your project is a "Priority Project" and is subject to the Site Design, Source Control, and Treatment Control design standards described in the Napa County Post-Construction Runoff Management Requirements.
- ✓ If all answers to Part A are "No" and any answers to Part B are "Yes" your project is a "Standard Project" and is subject to the Site Design and Source Control design standards described in the Napa County Post-Construction Runoff Management Requirements.
- ✓ If every question to Part A and B are answered "No", your project is exempt from post-construction runoff management requirements.

Part A: Priority Project Categories

Does the project meet the definition of one or more of the priority project categories?

1. Residential with 10 or more units ..... Yes (No)
2. Commercial development greater than 100,000 square feet..... Yes (No)
3. Automotive repair shop..... Yes (No)
4. Retail Gasoline Outlet..... Yes (No)
5. Restaurant..... Yes (No)
6. Parking lots with greater than 25 spaces or greater than 5,000 square feet..... Yes (No)

*Refer to the definitions section for expanded definitions of the priority project categories.

Part B: Standard Project Categories

Does the project propose:

1. A facility that requires a NPDES Permit for Stormwater Discharges Associated with **Industrial** Activities?..... Yes (No)
2. New or redeveloped impervious surfaces 10,000 square feet or greater, excluding roads?..... (Yes) No
3. Hillside residential greater than 30% slope..... Yes (No)
4. Roadway and driveway construction or reconstruction which requires a Grading Permit..... (Yes) No
5. Installation of new storm drains or alteration to existing storm drains?..... (Yes) No
6. Liquid or solid material loading and/or unloading areas?..... Yes (No)
7. Vehicle and/or equipment fueling, washing, or maintenance areas, excluding residential uses?..... Yes (No)
8. Commercial or industrial waste handling or storage, excluding typical office or household waste?..... Yes (No)

Note: To find out if your project is required to obtain an Individual General NPDES Permit for Stormwater discharges Associated with Industrial Activities, visit the State Water Resources Control Board website at, www.swrcb.ca.gov/stormwtr/industrial.html

NAPA COUNTY POST-CONSTRUCTION RUNOFF MANAGEMENT REQUIREMENTS
APPENDIX A – APPLICABILITY CHECKLIST

Impervious Surface Worksheet

Project phasing to decrease impervious surface area shall not exempt the project from Post-Construction Runoff Management requirements. A new development or redevelopment project must comply with the requirements if it is part of a larger common plan of development that would result in the creation, addition and/or reconstruction of one acre or more of impervious surface. (For example, if 50% of a subdivision is constructed and results in 0.9 acre of impervious surface, and the remaining 50% of the subdivision is to be developed at a future date, the property owner must comply with the Post-Construction Runoff Management requirements.

Type of Impervious Surface	Impervious Surface (Sq Ft)			Total New and Reconstructed Impervious Surfaces (Sq Ft)
	Pre-Project (if applicable)	New (Does not replace any existing impervious area)	Reconstructed (Replaces existing impervious area)	
Buildings, Garages, Carports, other Structures with roofs	5,000±	25,507 ±	2,350 ±	27,875 ±
Patio, Impervious Decking, Pavers and Impervious Liners	-0	6,023 ±	-0-	6,023 ±
Sidewalks and paths	-0-	670 ±	-0-	670 ±
Parking Lots	-0-	4,900 ±	-0-	4,900 ±
Roadways and Driveways,	-0-	52,262 ±	-0-	52,262 ±
Off-site Impervious Improvements	-0-	-0-	-0-	-0-
Total Area of Impervious Surface (Excluding Roadways and Driveways)	5,000 ±	37,100 ±	2,350 ±	39,450 ±

Incorrect information on proposed activities or uses of a project may delay your project application(s) or permit(s).

I declare under penalty of perjury, that to the best of my knowledge, the information presented herein is accurate and complete.

Name of Owner or Agent (Please Print):	Title:
Armando Ceja	Owner
Signature of Owner or Agent:	Date:
	4-1-10

NAPA COUNTY POST-CONSTRUCTION RUNOFF MANAGEMENT REQUIREMENTS
APPENDIX B – APPLICATION FOR SRMP REVIEW

FOR OFFICE USE ONLY

SUBMITTAL DATE: _____ FILE #: _____ APN #: _____

USGS QUAD: _____ CalWatershed: _____

REQUEST: _____

_____

USE PERMIT CATEGORY: ☐ Hillside Residence ☐ Subdivision ☐ Commercial Facility TYPE: ☐ Private ☐ Public

BUILDING AND/OR GRADING PERMIT: ☐ Structure ☐ Driveway ☐ Road ☐ Reservoir ☐ Cave ☐ Other

FINAL APPROVAL: Date: _____

Deposit: $ _____ _____ _____ _____

Deposit *Receipt Number* *Received By* *Date*

TO BE COMPLETED BY APPLICANT

(Please type or print legibly)

Applicant's Name: Armando Ceja Company: Ceja Winery

Telephone #: (707) 255-3954 Fax #: (707) 253-7998 E-Mail: _____

Mailing Address: 987 Leveroni Road, Sonoma, CA 95476

No Street City State Zip

Status of Applicant's Interest in Property: Owner

Property Owner's Name: same as above

Telephone #: (____)_____ Fax #: (____)_____ E-Mail: _____

Mailing Address: _____

No Street City State Zip

Site Address/Location: 1016 Las Amigas Road, Napa County

No Street City

Assessor's Parcel #(s): 047-240-037

SIGNATURE: I hereby certify that all the information contained in this application, including but not limited to, this application form, the Stormwater Runoff Management Plan (SRMP), the supplemental information sheets, site plan, plot plan, cross sections/elevations, is complete and accurate to the best of my knowledge. I hereby authorize such investigations including access to County Assessor's Records as are deemed necessary by the Department of Public Works for evaluation of this application and preparation of reports related thereto, including the right of access to the property involved.

Armando Ceja 5-7-09 Armando Ceja 5-7-09

Signature of Applicant Date Signature of Property Owner Date

Date: June 3, 2008

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)*
1016 Los Amigas Road Napa, CA 94559	047-240-037	

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

RECEIVED
APR 08 2010
NAPA CO. CONSERVATION
DEVELOPMENT & PLANNING DEPT.

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:
Armando Ceja	Owner
Signature of Owner or Agent: Armando Ceja	Date: 4-1-10

NAPA COUNTY CONSTRUCTION SITE RUNOFF CONTROL REQUIREMENTS
APPENDIX B - WQCP/SWPPP GENERAL INFORMATION FORM

FOR OFFICE USE ONLY

SUBMITTAL DATE: _____ FILE #: _____ APN #: _____

USGS QUAD: _____ CalWatershed: _____

REQUEST: _____

PERMIT: ☐ Building ☐ Grading TYPE: ☐ Private ☐ Public (County) ☐ Public (Other)

CATEGORY: ☐ Structure ☐ Driveway ☐ Road ☐ Reservoir ☐ Cave ☐ Other

FINAL APPROVAL: Date: _____

Deposit: $ _____ _____ _____ _____

Deposit *Receipt Number* *Received By* *Date*

TO BE COMPLETED BY APPLICANT

(Please type or print legibly)

Applicant's Name: Armando Ceja Company: Ceja Winery

Telephone #: (707) 255-3954 Fax #: (707) 253-7998 E-Mail: _____

Mailing Address: 987 Leveroni Road, Sonoma, CA 95476

No Street City State Zip

Status of Applicant's Interest in Property: Owner

Property Owner's Name: same as above

Telephone #: (___)_____ Fax #: (___)_____ E-Mail: _____

Mailing Address: _____

No Street City State Zip

Qualified Contact Person's Name: _____ Company: _____

Telephone #: (___)_____ Fax #: (___)_____ E-Mail: _____

Mailing Address: _____

No Street City State Zip

Site Address/Location: 1016 Las Amigas Road, Napa, CA

No Street City

Assessor's Parcel #: 047-240-037 Gated: ☐ Yes ☒ No

Parcel Size: 10.31 acres Disturbed Area: 104,000 ☐ acres ☒ ft^2 Amount of Cut & Fill: 3,900 yds^3

Percent Slope: Minimum: 0.5% Maximum: 3% Average: 1%

Min distance between disturbed area and Stormwater Conveyance System (creeks, ditches, reservoirs, storm drains, etc.): 300 feet

Construction of New Storm Drains: ☒ Yes ☐ No Construction within Waters of the State: ☐ Yes ☒ No

Project Priority (See Applicability Checklist, Appendix A, Section B): ☐ Low ☐ Medium ☒ High

SIGNATURE: I hereby certify that all the information contained in this application, including but not limited to, this application form, the supplemental information sheets, site plan, plot plan, cross sections/elevations, is complete and accurate to the best of my knowledge. I hereby authorize such investigations including access to County Assessor's Records as are deemed necessary by the Department of Public Works for evaluation of this application and preparation of reports related thereto, including the right of access to the property involved.

Armando Ceja 4-1-10 Armando Ceja 4-1-10

Signature of Applicant *Date* *Signature of Property Owner* *Date*

NAPA COUNTY CONSTRUCTION SITE RUNOFF CONTROL REQUIREMENTS
APPENDIX C – SRMP CHECKLIST FOR A COMPLETE APPLICATION

FOR OFFICIAL USE ONLY	
PLAN REVIEWER: _____	DATE RECEIVED: _____
PROJECT NAME: _____	PROJECT NUMBER: _____
PERMIT CATEGORY: ☐ Use Permit ☐ Building Permit ☐ Grading Permit	

Project Category (check all applicable Priority or Standard Project categories)	
☐ **Priority Project**	☐ **Standard Project**
____ Residential with 10 or more units	____ Industrial NPDES permit
____ 100,000 sq ft commercial	____ Impervious surface > 10,000 sq ft (excluding roads)
____ Automotive repair shop	____ Hillside residential on slopes 30% or more
____ Restaurant	____ Roadways and driveways that require a grading permit
____ Retail Gasoline Outlet	____ New or alteration of storm drains
____ Parking Lot (>25 spaces or >5,000SF)	____ Liquid or solid material loading areas
	____ Vehicle or equipment fueling, washing, or maintenance
	____ Commercial or industrial waste handling and storage

At a minimum, the Stormwater Runoff Management Plan must cover the areas listed below.

√ = Complete, X = Incomplete, NA = Not Applicable

A. Planning and Organization

1. ✓ Completed Post-Construction BMP Applicability Checklist (Appendix A)
2. ✓ Completed SRMP General Information Form (Appendix B).
2. ✓ Vicinity map showing the site in relation to the surrounding area.
3. N/A If applicable, incorporate or reference other regulatory permits and their requirements. Note: All State and Federal Permits (1600, 401/404, General Permit, etc) must be approved prior to any construction within State Waters.
4. ✓ Describe the nature of the proposed use of the development project.

B. Identify Pollutants and Conditions of Concern

1. ✓ Standard and Priority Projects proposing 10,000 or more sq. ft. of new impervious surface, excluding roadways and driveways or projects directly discharging to tidally-influenced receiving waters, must prepare a drainage study that calculates the pre-development runoff volume according to the criteria in Chapter 3.1.
2. ✓ Standard and Priority Projects must provide a completed Source Control BMP Selection Worksheet (Appendix E) that lists all anticipated activities associated with the use of the proposed project that have the potential to generate pollutants.
3. ✓ Standard and Priority Projects must list and describe all stormwater conveyance systems (e.g. storm drain, ditch, creek, etc) within 150 feet of the project footprint. Discretionary projects must also provide an analysis for all open stormwater conveyance systems. At a minimum, the analysis must consider the criteria in Chapter 3.3.

4. _✓ Priority Projects required to incorporate Treatment Control BMPs into the project design shall provide a completed Post-Construction BMP Selection Worksheet (Appendix F).

D. Post-Construction BMPs

Site Design BMPs

1. ✓ List and describe all Site Design BMPs used to maintain stormwater runoff volumes to pre-development conditions according to the criteria described in Chapter 4.1. If structural controls are required to maintain pre-development peak runoff conditions, a description of why Site Design BMPs alone are not practicable for maintaining runoff conditions is required.
2. N/A List and describe all structures (outfalls, culverts, etc.) proposed within the jurisdiction of the DFG, RWQCB, and/or ACE. The description must include the structure's specifications and designed storm capacity. The structure must be constructed in accordance with all applicable State and Federal permits.
3. ✓ Provide the average slope and minimum and maximum distance between the project footprint and all open stormwater conveyance systems (e.g. ditches, creeks, etc.). Ministerial projects must establish setbacks that comply with the stream setback requirements in the Conservation Regulations and Floodplain Management Regulations. Discretionary projects may establish and/or restore wider buffers zones to protect aquatic resources and structures.

Source Control BMPs

4. ✓ List and describe all source control measures included in the project design to eliminate pollutant contact with stormwater from the anticipated activities identified in the Source Control BMP Selection worksheet (Appendix E). The description must include the location and design specifications for each source control BMP.

Treatment Control BMPs

5. N/A Priority Projects provide a completed Treatment Control BMP Selection Worksheet (Appendix F) and include a description of the location and design specifications for each treatment control BMP.
6. N/A Provide the calculations used to design the treatment control BMPs to satisfy the numeric sizing treatment standards in Chapter 4.3. Applicants may count the site design BMPs toward meeting these numeric standards.

F. Site Plan

The site plan shall be neat and legible and shall be drawn on a 24" X 36" sheet and shall be folded to 8 ½" by 11" prior to submittal. When two or more sheets are used to illustrate the plan view, an index sheet is required, illustrating the entire project on one (1) 24" x 36" (minimum) sheet. The entire parcel shall be identified on the plan. If only a portion of the site will be developed, the entire parcel may be shown as a detail, with the area to be developed, cleared, and/or graded drawn to an appropriate scale.

The site plan shall include all of the following:

1. ✓ Provide and legend and north arrow on the plan.
2. ✓ Maximum plan scale of 1" = 100'.
3. ✓ An outline of the entire property.
4. ✓ Provide a "limit of disturbance" line which shows the limit of soil disturbance and areas where existing vegetation is preserved.

5. ✓ All open stormwater conveyance systems (e.g. ditches, creeks) and setback distances must be delineated.
6. N/A State and Federal wetlands must be accurately delineated.
7. N/A The National Flood Insurance Program 100 Year Flood Zone and Flood Way must be delineated.
8. ✓ Drainage areas on the property and direction of flow. Map must extend as far outside the site perimeter as necessary to illustrate relevant drainage areas. Where relevant drainage areas are too large to depict on the map, map notes or inserts are sufficient.
9. ✓ All storm drain inlets and outlets must be located on the plan.
10. ✓ Anticipated stormwater discharge locations.
11. ✓ Location of existing and future Site Design and source Control BMPs.
12. N/A Location of existing and future Treatment Control BMPs.
13. ✓ Location of existing and future "impervious" areas - paved areas, buildings, covered areas.

G. Post-Construction BMP Implementation and Maintenance Agreement

1. ✓ One of the maintenance mechanisms described in Chapter 5A, which is satisfactory to the Director, must be signed and executed.
2. ✓ Include a signed Owner's Certification that states "I, the undersigned, certify that all land clearing, construction and development shall be done pursuant to the approved plan." This must be signed in ink on each plan submitted or on an original reproducible.

NAPA COUNTY POST-CONSTRUCTION RUNOFF MANAGEMENT REQUIREMENTS
APPENDIX E – SOURCE CONTROL BMP SELECTION WORKSHEET

All Standard and Priority Projects must complete and sign the Source Control BMP Selection Worksheet and submit it with their Stormwater Runoff Management Plan (SRMP).

Date of Application: April 20, 2009

Type of Application: ☒ Use Permit ☐ Building Permit ☐ Grading Permit

Project Number: *(For County Use Only)*

Project Location or Address: 1016 Las Amigas Road, Napa County, CA 94558

Project Name: Ceja Winery

Property Owner Name: Armando Ceja

Applicant's Name:

☒ Owner ☐ Contractor ☐ Engineer/Architect ☐ Developer

Applicant's Address: 987 Leveroni Road, Sonoma, CA 95476

Applicant's Phone: (707) 255-3954 **Fax:** (707) 253-7998 **E-mail:**

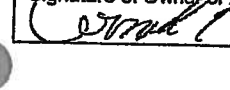
Parcel/Tract #: **Lot #:** **APN:** 047-240-037

Fill out the table below to indicate which Source Control BMPs in Chapter 4.2 apply to your project.

Check box to indicate proposed activity	Land Use/Activities	Limited Exclusion (Check box if project is excluded)	Source Control BMP Standard
✓	Roads and driveways.	None	4.2.A
✓	Parking Areas	None	4.2.B
✓	New or Reconstructed Stormwater Conveyance Systems	None	4.2.C
✓	Storm drain Inlets and open channels or creeks.	☐ Detached Residential Homes	4.2.D
✓	Landscaping	None	4.2.E
✓	Trash Storage Areas.	☐ Detached Residential Homes	4.2.F
N/A	Pools, Spas, and Fountains.	None	4.2.G
✓	Roofs, Gutters, and Downspouts.	None	4.2.H
✓	Loading and Unloading Dock Areas	None	4.2.I
✓	Outdoor Material Storage Areas.	☐ Detached Residential Homes	4.2.J
✓	Processing Areas.	None	4.2.K
N/A	Vehicle and Equipment Repair and Maintenance Areas	☐ Detached Residential Homes	4.2.L
N/A	Vehicle and Equipment Wash Areas	☐ Detached Residential Homes	4.2.M
✓	Food Service Equipment Cleaning	None	4.2.N
✓	Interior Floor Drains.	None	4.2.O
N/A	Fueling Areas.	None	4.2.P

Incorrect information on proposed activities or uses of a project may delay your project application(s) or permit(s).

I declare under penalty of perjury, that to the best of my knowledge, the information presented herein is accurate and complete.

Name of Owner or Agent (Please Print):	Title:
Armando Ceja	Owner
Signature of Owner or Agent:	Date:
	5-7-09

NAPA COUNTY POST-CONSTRUCTION RUNOFF MANAGEMENT REQUIREMENTS
APPENDIX G – VECTOR MANGEMENT CONSIDERATIONS FOR STORMWATER BMPs

BACKGROUND

The Napa County Mosquito Abatement District (NCMAD) has the responsibility for providing enforcement of mosquito control measures when public health is threatened. It is concerned with the spread of insects and other nuisance pests that could result from poorly designed and/or maintained structures, especially those containing standing water. Detention basins, water quality wetlands and infiltration basins are examples of stormwater treatment control structures that may offer prime breeding habitats for mosquitoes and other nuisance pests if not properly designed and maintained. Stagnant water associated with stormwater treatment can provide habitat for the aquatic stages of mosquitoes. NCMAD and other California vector control districts are particularly concerned that the expanding number of treatment controls may result in increased mosquito habitat at the same time as the potential arrival of West Nile Virus. Napa County is working with the NCMAD to develop favorable treatment control design standards.

USING SITE DESIGN TO MINIMIZE MOSQUITO VECTOR CONTROL CONCERNS

Proper site design offers an excellent opportunity to minimize stormwater impacts and mosquito threats by minimizing the treatment controls needed, and by properly designing and placing those that are needed to reduce potential vector impacts. Based on available literature and current BMP implementation strategies nationwide, the following general principles for proper site designs should be considered.

- **Preserve natural drainage.** This reduces the amount of stormwater runoff and provides for natural on-site runoff control. This can reduce the number of structural BMP measures required.

- **Improve designs of permanent pools.** Reduce mosquito habitat: increase circulation and provide deeper water depths. Stock permanently flooded systems with mosquito fish to foster biological predation on mosquito larvae.

- **Select stormwater management measures based on site-specific conditions.** Designs that take into account site conditions tend to improve drainage and limit the occurrence of stagnant water.

- **Attend to ponds that temporarily impound water.** Facilities that pond water for an extended period (e.g., dry ponds, and man-made wetlands) should drain water completely within seventy-two (72) hours of a storm event. Avoid placement of dry ponds and underground structures in areas where they are likely to remain wet (i.e., high water tables). Principal outlets should have positive drainage.[1]

- **Properly design storm sewer systems.** The sheltered environment in-side storm drains can promote mosquito breeding. Design and construct pipes for a rate of flow that flushes the system of sediment and prevents water backing up in the pipe. Construct storm drains so that the invert out is at the same elevation as the interior bottom to prevent standing water.

- **Properly maintain controls.** Any circumstances that restrict the flow of water from a system as designed should be corrected. Debris or silt buildup obstructing an outfall structure should be removed. Under-drains and filtration media should be inspected periodically and cleaned out or replaced as needed.

ADDRESSING VECTOR CONTROL CONSIDERATIONS IN STORMWATER TREATMENT BMPS.

While addressing stormwater quality via proper site design planning is the best method for minimizing long-term maintenance requirements and vector concerns, some projects still require stormwater treatment systems due to the size of the project. In such cases, project proponents should consider the

---

[1] In Napa County, there is no mosquito that will complete development in less than seven days, even during the warmest conditions. Once the mosquito reaches the pupal stage, it can complete development without water as long as the soil remains damp. Therefore, a realistic limit on the duration of standing water is five days, even allowing for a considerable margin of error.

following standards when selecting and designing these systems for their site. Municipalities should review proposed stormwater treatment BMPs designs with vector control in mind.

Proper BMP Designs to Reduce or Eliminate Mosquito Production. NCMAD has identified several stormwater BMP maintenance objectives to reduce or eliminate mosquito production. These include the following:

- Minimize stagnant water (i.e., maintain constant exchange of water in systems);
- Minimize surface area (i.e., deeper water habitat is preferable);
- Keep wetland edges simple (e.g., steep banks with deep water);
- Prevent mosquito access to underground systems that may have standing water. Use siphons and sealed access to prevent mosquito access.
- Include mosquito net covering sand media filter pump sumps;
- Include aluminum "smoke proof" cover for any vault sedimentation basins;
- Use grouted rock energy dissipaters instead of loose rock; and
- Construct sites so that there is access to the water's surface. Any underground site that might create mosquito habitat in stagnant water should have easy access for direct inspection and insecticidal treatment.

Vector-control personnel throughout the United States have found that aquatic habitats that last only three (3) to five (5) days generally do not allow for complete development of mosquito larvae[2]. In addition, cold temperatures that often occur during the rainy season suppress mosquito production. In Napa County, with the exception of certain BMPs designed to hold permanent water (e.g. detention or wet ponds), all BMPs should drain completely within seventy-two (72) hours to effectively suppress vector production. Access for routine maintenance and vector control is also imperative in BMP design.

Improper BMP Design and Maintenance Can Lead to Additional Mosquito Production. Improper BMP selection, design, and maintenance contribute to mosquito production. Stormwater BMPs (and their associated structures and/or components) that may create a suitable habitat for mosquito production include:[3]

- Any BMP that clogs, improperly drains and/or collects debris;
- Catch basins and settling basins that are exposed;
- Effluent pipes with small diameter discharge orifices prone to clogging;
- Loose riprap;
- Pumps or motors designed to automatically drain water from structures;
- Retention ponds, continuous deflective separation (CDS) units, Delaware sand filters, multi-chambered treatment trains (MCTT), wet basins and other BMPs that maintain a pool of standing water;
- Sumps, catch basins and settling basins that are covered or located below ground;
- Sumps, catch basins, spreader troughs or other BMPs that do not drain completely; and,
- Underground detention systems, sumps or other BMPs that are unsealed or have openings.

---

[2] Metzger et al., 2003

[3] This list may not be totally inclusive of all stormwater BMPs that provide potential habitats for mosquitoes.

ADDITIONAL RESOURCES FOR GUIDANCE ON VECTOR CONTROLS

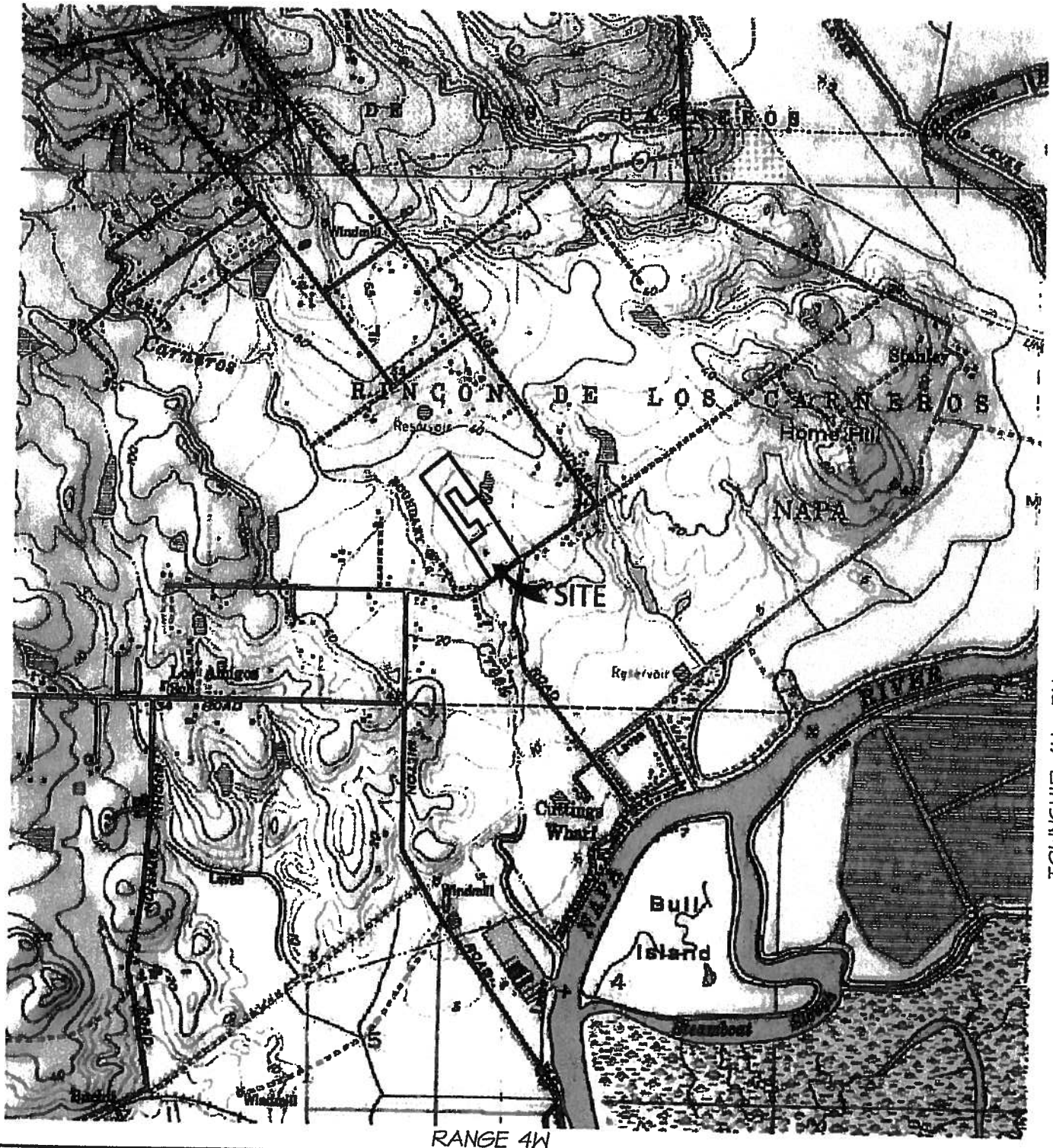
Additionally, the following materials regarding mosquitoes and factors contributing to mosquito production within BMPs may be obtained from the Napa County Stormwater Management Program website (www.napastormwater.org):

- *The Dark Side of Stormwater Runoff Management: Disease Vectors Associated with Structural BMPs;*
- *Stormwater Treatment Devices as Potential Breeding Grounds for Disease Carriers;*
- *Disease Vectors Associated with Stormwater Treatment Devices in California;*
- *The Downside of Stormwater Runoff Management: Disease Vectors & Structural BMPs in Southern California.*

TOPOGRAPHIC SITE LOCATION INFORMATION

USGS 7.5 MINUTE QUADRANGLE "CUTTINGS WHARF"

Scale: 1" = 2000'



BARTELT engineering

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1303 jefferson street, 200 B, napa, ca 94559

(707) 258-1301 · fax (707) 258-2926

Ceja Vineyards

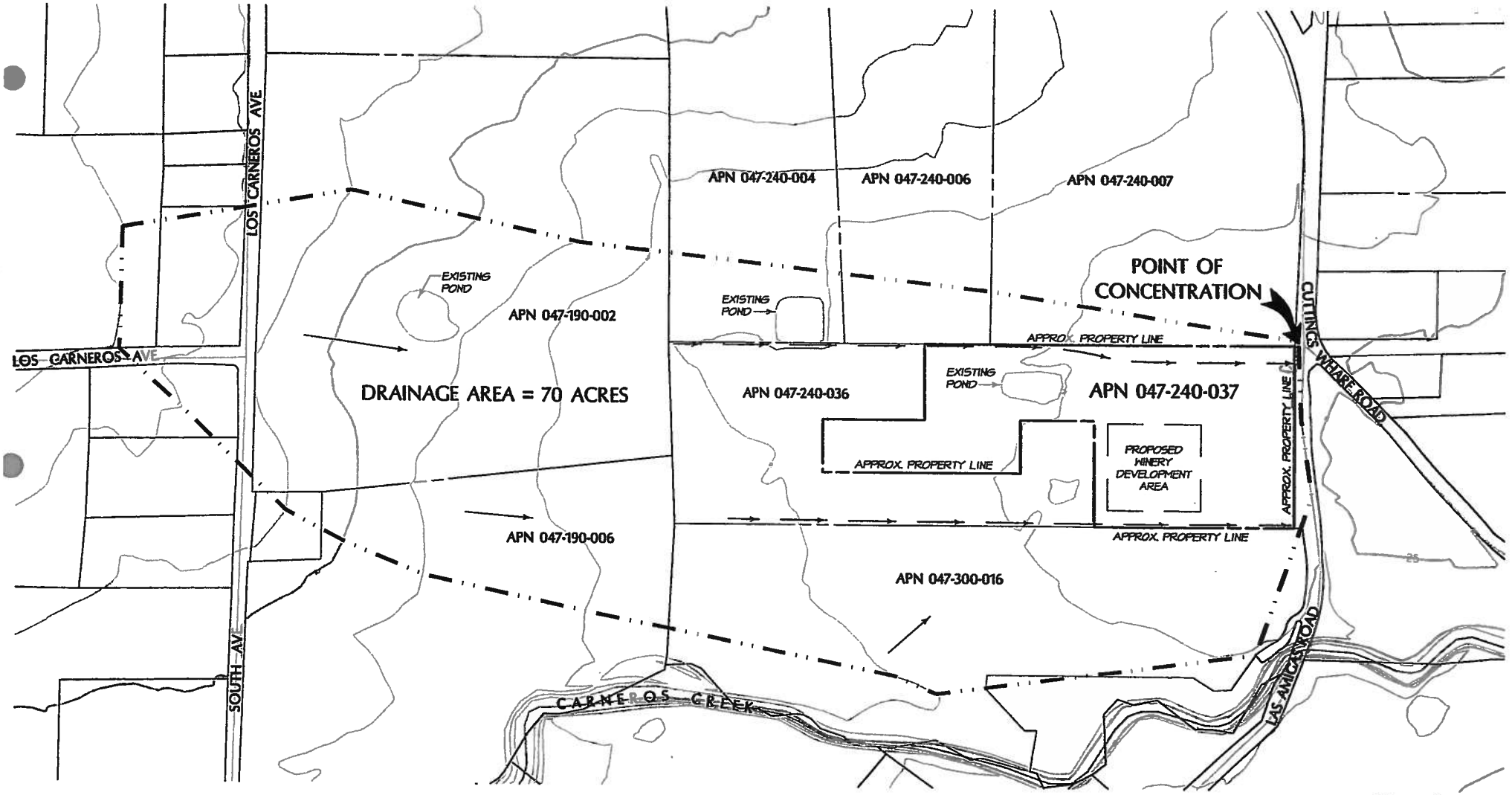
1016 Las Amigas Road

Napa, CA 94559

APN 047-240-036 & 037

Job no. 07-23

March 2010



DRAINAGE STUDY
EXHIBIT

SCALE : 1" = 250'

LEGEND:

- SWALE
- FLOW DIRECTION
- PARCEL BOUNDRY
- DRAINAGE AREA

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APN 047-240-037
Job No. 07-23
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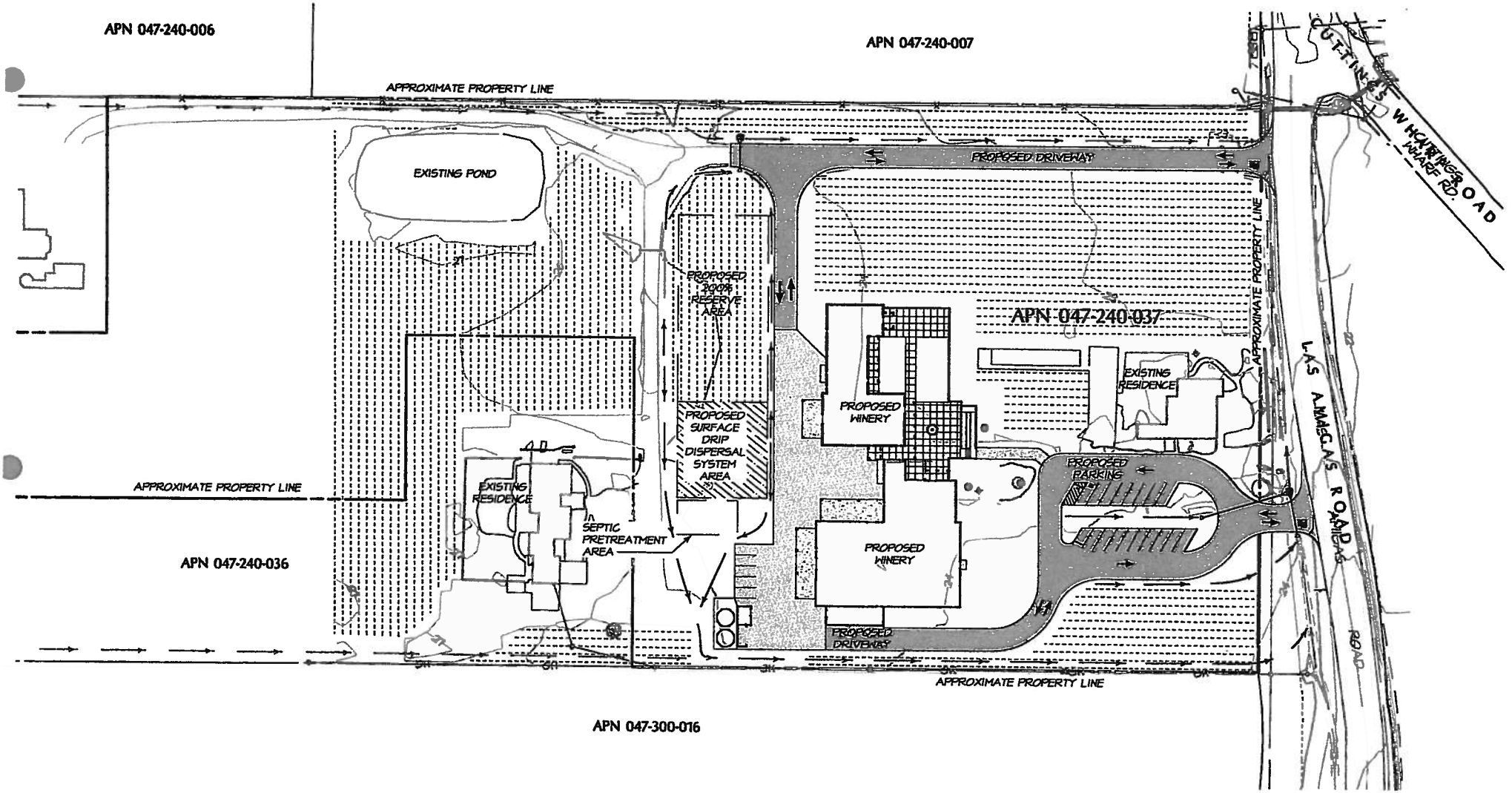
Sheet 1 of 1



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BEST MANAGEMENT PRACTICES EXHIBIT

SCALE : 1" = 80'

LEGEND:

- EXISTING SWALE
- PROPOSED SWALE
- PARCEL BOUNDRY

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