#### NAPA COUNTY

#### CONSERVATION, DEVELOPMENT AND PLANNING COMMISSION

1195 Third Street, Room 210, Napa, California, 94559 (707) 253-4416

#### APPLICATION FOR USE PERMIT

<del></del>	<del></del>	EXCE	T NOIT	O CONSE	RVATION	REGULA	JU ZNOIT	<u>JL 2 2 1999</u>
ZONING	DISTRICT:	AW		FOR OFFICE	USE ONLY FILE NO:	99141	NAP.	A CO. CONSERVATIO
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		MIT REQUI					3/99 /	() /18-4
onservation F	Regulations	an exception	construct	apa County	Date Compl	lete:	V	E ATTACEGO
.800 feet of	ccess road	and driveway	across slo	ones of 0 to	Date Fublish			
6% on 31.27	7 acres (AP	N 27-310-31, 3	32. 35. &	36) situated	TT :	<u>ZA</u>	<u>CDPC</u>	BS HEARING
orth of Uakvi	ille Grade a	approximately	1,000 fee	t east of its	-			<u> </u>
itersection w	<u>ith Mt Ve</u>	<u>eder Rd in a</u>	n AW (	Agricultural			= 6E 1X	
Vatershed) Zor	<u>ning Distric</u>	<u>t</u>			Action	<u> C-5Z</u>	115 VE	¥25
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•	<del></del>	<del>-</del>	ТО ВЕ	COMPLETED	BY APPLICAN	T		
Applicant's	Name: RO	h Yeakev		(please print	or type)			
		b Yeakey					<u>967-1036</u>	
Address:	2600 Sp	ring Mtn.	Road,	St. Hele	na, CA 9	4574		
	No	Street		City			State	Zip
Status of Ar	onlicant's Inte	erest in Property:	· Owner	r				-
Į				***		<del></del> .		<del></del>
Property Ov	wner's Name	Oakville	LLC		Telephone #	:( ) Sai	ne as abo	ve
1							<u></u>	
Address	No No	ring Mtn. Street	Koad, S	City	na, CA 9	4574	State	
				City			State	Zip
Site Address	s (if any):							
Í		No		Stree	et		City	
Assessor's P	Parcel #:	27-310-03	1		Existing Pa	rcel Size: 6	8.0 Acres	· +
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supply/waste	at all the int	ormation contain	ned in this	application,	including bu	t not limite	d to the inform	nation sheet, wate
piot pian and	u toxic materi	iais list, is compl	lete and acc	curate to the h	est of my kno	wiedae Ib	ereby authorize	aste disposal system such investigation
I mermonia se	cess to Coun	ity Assessor's Re	ecords as a	re deemed ne	ecessary by th	le county Pl.	anning Division	for preparation of
reports relate	ed to this app	lication, includin	ig the right	of access to the	he property in	volved.		
				(				
	<u> </u>		7-6-	99		_ L <u></u>		7-6-99
Sign	nature of App	licant	Date		Sign	nature of Pro	perty Owner	Date
Parena	T. M. YEA	~~=~			7			
		NAME		<del></del>	Reiszer		T NAME	
						FKIIV	INAME	
	10 RE CO	MPLETED BY C	ONSERVA'	TION, DEVE	LOPMENT AN	D PLANNIN	G DEPARTME	NT
Balance Fee:	\$640.00	RECEIPT # 4	4267	RECEIV	ED BY:		El n	ATE: <u>22 July '</u>
Pre-app Fee:	. \$125.00	RECEIF I #		DATE:	<u> </u>	- W. T. W.	الما المن التاسمان	<u>86 4219</u>
Total Fee:	\$765.00							
SEE EC	PS 98541	ſ						
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10/31/97

. The Prior to Un project area was in 27-710 28/29



#### **COUNTY** of NAPA

CONSERVATION, DEVELOPMENT AND PLANNING

PATRICK LYNCH Assistant Director

#### **MEMORANDUM**

TO: Conservation, Development and Planning Commission

FROM: Mary Doyle, Principal Planner

SUBJ: Revisions to OAKVILLE, LLC/ROBERT M. YEAKEY USE PERMIT EXCEPTION #99141-UP

APNs (027-310-031, -032 SFAP)

DATE: May 7, 2008

The Use Permit exception request to the Conservation Regulations remains unchanged, new construction of an access road and driveways. The alignment of an access road has been through seven (7) different iterations between 1999 and 2007. These 7 alignments would have had access of an existing driveway on Oakville Grade. The alignment recommended for approval is a new entrance off of Dry Creek Road, approximately 800 feet west of the (revision 2002) entrance on Oakville Grade. It is a modification to alignment 1. Alignment 1 as originally proposed would not have accommodated a CDF fire engine. The proposed (2007) alignment with the tunnels does provide a gradient that a FIRE engine could use. The intent of the original driveway was to access one parcel (027-310-031), with the potential to provide access to the adjoining parcel (027-310-032). However, without access to (-031), there would not a point to provide access to (-032). The alignment recommended for approval will provide access to (-032). (see attached graphic ......)

The original application is revised with concurrence by applicant as follows:

 Request: The length of the private road with driveways is 11,100 linear feet across slopes of 4% to 71% to provide access to 2 parcels (027-310-031 of 68 acres & -032 of 110 acres). Access to be off of Dry Creek Road.

The supplemental application the following items are revised as:

Item 1: Parcel (-013) fronts Dry Creek Road and the revised alignment with tunnels does allow access to the parcel from a southerly direction. As well as allowing access to parcel (032).

Item 5: Under section 18.108.025 disturbance to streams/watercourses and setbacks: There shall be no disturbance to streams, watercourses and stream setbacks shall be retained.

# SUPPLEMENTAL APPLICATION FORM SUPPLEMENTAL APPLICATION TO CONSERVATION REGULATION. DEVELOPMENT & PLANNING DEPT.

1. Please explain the reason for the exception request.
The proposed driveway to the building site for A.P.N. 027-310-031 i
over steep sloping terrain. The property fronts Oakville Grade which
is to the south. where the slopes are stronger to the south.
is to the south, where the slopes are steepest, prohibiting access the building site from a southerly direction. The
the building site from a southerly direction. The proposed driveway location approaches the property from the east where approximately
1/3 of the private access driveway will be along existing fire roads
for which plans have been previously submitted and approved. The
exception request for the construction of a driveway to A.P.N. 027-
310-031 is due to the fact that the average proposed driveway slope
is 42%, with 18 of the 49 cross sections being over 50% slope. No
variance will be required since the average slope is less than 50%.
The state of the s
2. Are there any alternatives to the project which would not require an exception? Please explain
2. Are there any alternatives to the project which would not require an exception? Please explain.  No alternatives for a driveway to the building site exist which would
not require an exception.
not require an exception.  There are three directions from which a driveway could approach the
not require an exception.  There are three directions from which a driveway could approach the building site, (i.e. northerly, easterly, and southerly). All possible
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3.	into final design plans, and replacement vegetation of appropriate size, quality and quantity is included to mitigate adverse environmental effects.
I	The driveway being proposed is in an area covered by predominantly
	low lying brush and shrubs which will minimize the impact on existing
<b> </b>	vegetation and trees. Hydroseeding and replanting of natural vege-
	tation on cut and fill slopes has been included in the plans to
	mitigate adverse environmental effects.
	Januarian enects.
4.	Adequate fire safety measures have been incorporated into the design of the proposed development.  The driveway has been designed to make the proposed development.
	The driveway has been designed to meet the requirements of Napa  County Fire Department and the County Fire Department
	County Fire Department, and the California Department of Forestry and Fire Protection.
	1110 Procederon.
	Disturbance to streams and watercourses shall be minimized, and setbacks shall be retained as specified in Section 18.108.025.  The disturbance to streams and watercourses has been minimized by using a free span bridge at the Campbell Creek crossing and a culvert at the intermittent stream crossing. The culvert will be placed when the intermittent stream is dry. Fill slopes along the streamside of the proposed driveway will be planted with native vegetation. A 1603 permit application has been filed with Fish and Game. A site inspection with Fish and Game was performed on June 24th. Their recomendations have been incorporated into this revised plan set.  The project does not adversely impact threatened or endangered plant or animal habitats as designated by state or federal agencies with jurisdiction and identified on the county's environmental sensitivity maps.
<del></del>	Upon site visit we found nothing pertaining to this project that
	adversely impacts threatened or endangered plant or animal habitate as
	designated by State or Federal Agencies. The project area was not
	found to be identified on the County's Environmental Sensitivity
	Maps.

3. Describe how the project can meet the findings described in Section 18.104.040 A (structural or r project), or Section 18.108.040B (agricultural project).	oad
Section 18.108.040.A. Structural/road development projects	
1. Roads, driveways, buildings and other man-made structures have been designed to complemen natural landform and to avoid excessive grading:	the
The Driveway being proposed is in an area covered by predominantly	
low lying brush & shrubs which will reduce the impacts on vege-	
tation and trees, thereby complementing the natural landform. To	
avoid excessive grading the driveway follows the slope of the ground	l
closely over much of it's length to balance cut and fills in the are	a
where the ground cross slope is steep. Additionally the beginning	``
portion of the driveway is over existing fire roads which will be	
improved thereby utilizing the existing landform and contributing to	)
an overall reduction in grading.	
<ul> <li>a. Multiple-floor levels which follow existing, natural slopes;</li> <li>b. Foundation types such as poles, piles, or stepping level which minimize cut and fill and the refor retaining walls;</li> </ul>	
c. Fence lines, walls, and other features which blend with the existing terrain rather than strike at an angle against it.	
The primary and accessory structures proposed meet the current code,	
therefore no exception is required.	
	_

Se D	ection 18.108.040.B. Agricultural projects and Agricultural roads (as defined by Napa County epartment of Public Works):
1.	The erosion rate that results two years from the completion of the proposed agricultural developmen does not exceed the soil tolerance factor approved by the Natural Resource Conservation Service for the soil type, topography and climatic conditions in which the project is located; (Please attach a copy of the USLE worksheet used to determine the erosion rate).
	Not Applicable
3.	Impacts on streams and watercourses are minimized, and adequate setbacks along these drainageways are or will be maintained.  Not Applicable
· <u>-</u>	The project does not adversely impact sensitive, rare, threatened or endangered plant or animal habitats as designated by state or federal agencies with jurisdiction and identified on the county's environmental sensitivity maps.
	Not Applicable
-	



#### REB ENGINEERING, INC.

Civil & Structural Engineering - Land Surveying & Planning

October 11, 2007

Ms. Mary Doyle Napa County Conservation, Development & Planning Department 1195 Third Street, Rm. 210 Napa, CA 94559

Subject: Pacific Coast Venture & Oakville LLC Residences

Use Permit Exception # 99141-UP (for slope over 30%)

Campbell Creek Ranch (Parcels #3 & #7)

APN 027-310-031 & 032

#### Dear Mary:

To better describe the work being proposed I am attaching an erosion control narrative along with the plans, soils, drainage, and environmental reports for the subject project, As you review this information please let me know if I can be of further assistance, and don't hesitate to call if you have any questions.

Sincerely.

Randal E. Bryant, P.E., P.L.S.

REB Engineering, Inc.

REB Engineering, Inc.

Phone: 707.963.8638 Fax: 707.963.2346 E-mail: randy@REBengineering.com

345 La Fata Street, Suite B / P.O. Box 113, St. Helena, CA 94574

### EROSION CONTROL NARATIVE: (A.P.N. 027-310-031 & 32)

 The nature and purpose of the land disturbing activity and the amount of grading involved.

The nature and purpose of the land disturbing activity is the construction of a new Driveway and Residences for the properties of Oakville LLC, and Pacific Coast Venture, Corp., parcels #7, and #3 respectively, of Campbell Creek Ranch. The assessor numbers are as follows:

Oakville LLC, (A.P.N. 027-310-031)
Pacific Coast Venture, Corp., (A.P.N. 027-310-032)

House plans have been previously submitted to the Napa County Building Department for both properties. The new driveway to the proposed residence sites will be paved after construction. Turn-outs and driveway improvements will be according to the Napa County Public Works Dept., and California Department of Forestry (CDF) Specifications. The new driveway will begin at Dry Creek Road just west of the fire station at the end of Oakville Grade Road, and lead up the hill to the proposed building sites.

The proposed main driveway from Dry Creek Road is approximately 44,00 feet long to the 60 foot diameter circle turnaround near the north property line of Oakville LLC. From this turnaround circle the driveway splits off to the north for another 1700 feet to the Pacific Coast Venture, Corp residence, and to the south for about 600 feet to the Oakville LLC residence. For discussion purposes the Oakville LLC driveway will be considered to be from Dry Creek Road to the Oakville LLC Residence (5,000 LF), and the Pacific Coast Venture, Corp driveway will be from the 60 foot turnaround circle to its residence (1700 LF). The construction grading quantities associated with these projects are summarized below:

#### Grading/Construction Quantities

	<u></u>		
<u>Project</u>	Description	<u>CUT (cy)</u>	FILL (cy)
Oakville LLC	driveway	34,900	14,500
Oakville LLC	residence	17,200	22,500
Oakville LLC	landscape fill	200	18,500
Pacific Coast Venture, Corp	driveway	3,400	4,400
Pacific Coast Venture, Corp	residence	12,600	<u>11,70</u> 0
Project Totals		68,300 cy	71,600 cy*
		•	,000 0,

\*Note: Additional fill to balance earthwork will come from underground utilities, swimming pools, and foundation construction.

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# 2) General description of existing site conditions, including topography, vegetation and soils.

The site is comprised of scattered small oaks, madrones, bays, firs, and digger pines, as is typically found on the west side of the Napa Valley in the area around Oakville Grade Rd. Topography is slightly sloping to steep terrain. The soils are typically shallow and underlain with a fractured shale rock.

# 3) Natural features onsite including streams, lakes, reservoirs, roads, drainage and other areas that may be affected by the proposed activity.

The proposed project will be constructed over and through the existing hillside terrain and should have a minimal impact on the natural features onsite.

# 4) Soil types/soil series identified in the Soil Conservation Service (SCS) Napa County Soil Survey (1978 edition).

The soil is type 157 (Lodo-Maymen-Felton association 30-75% slope) as shown on the Soil Survey of Napa County Map #30, however soil type 136 (Felton gravelly loam 30-50% slope) and soil type 165 (Millsholm Loam 30-75% slope) were also found on the site.

# 5) Critical areas, if any, within the development site that have serious erosion potential or problems.

The project leads from Dry Creek Road along the sides of the hills to the upper gentle slopes of the Oakville LLC, and Pacific Coast Venture, Corp building sites. Although the driveway entrance is across from Dry Creek it then leads away from streams and creeks on the property. Special care will need to be taken in regards to erosion control measures around the driveway entrance and along the sides of the hills. With the BMP measures in place there should be no serious erosion potential or problems with this project. Some other critical areas will be during the rainy season where small rocks and soil that are disturbed on steep slopes can be mobilized by runoff where the soil erosion potential is high.

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- 6) Proposed erosion control methods including:
- a) All drainage systems and facilities, walls, cribbing or other erosion protection devices to be constructed with, or a part of the proposed work.

Fiber rolls or silt fences will be constructed downslope of exposed soils from the construction of the building pad, and as determined by the engineer or county inspector. A three step process will be used for the hydroseeding of the exposed slopes along the proposed driveway improvements will also be used. Drainage swales or "V" ditches shall be constructed in some areas of the driveway, and toes of slopes to provide for some control of storm water. The main method of erosion control will be provided soil nail walls which will reduce the area of exposed earth and minimize the impact of road construction on the hillside. Also sediment basins will be used in two areas of the project to reduce silt leaving the project site.

All swales and ditches shall be lined with rock, Enkamat fabric, or concrete as needed to resist erosion from high water velocities. Drainage outfalls will be into existing swales and or ditches. Rock rip rap protection at drainage inlets and outlets will be constructed to protect the entrances and exits of storm water in pipes. Some geogrid engineered fill and earth buttress walls will be used to reduce the impacts of long fill slopes on the existing terrain and vegetation.

b) Proposed vegetative erosion control measures including location, type and quantity of seed, mulch, fertilizer and irrigation; timing and methods of planting, mulching and maintenance of plant material and slopes until a specified percentage of plant coverage is uniformly established.

A three step hydroseed process will be used for the slopes steeper than a 2:1, along the proposed driveway. The three step process will begin with a hydraulically applied seed, fertilizer, fiber, emulsion, and mychorhizol inoculant. The second step will blow straw over the newly hydroseeded slopes, and then the third and final step will cover the straw and seeded slope with a fiber, tackifier, compost/fertilizer mixture to create a protective blanket over the entire exposed slope area. For slopes along the proposed driveway flatter than 2:1, and in the pad area, spread Napa Erosion Mix per Napa Valley Farm Supply (or equal) at a rate of 50 lbs/acre and fertilize with 60 lbs/acre of nitrogen equivalent fertilizer over all freshly exposed erodable soil surfaces. Cover seeded soil surfaces with straw mulch, using 3,000 - 4,000 lbs/acre to retain soils and facilitate plant regrowth. Natural rainfall will provide irrigation, since planting will occur no sooner than October. Method of planting will be hand broadcast or hydromulch. Replanting and mulching will continue until an 80% growth rate is achieved.

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October 11, 2007

- 7) Stormwater stabilization measures, if the development of the site will result in increased peak rates of run-off that may cause flooding or channel degradation downstream. None required.
- 8) An implementation schedule showing the following:
- a) The proposed clearing, grading, and/or construction schedule.

Begin work upon receipt of grading permit between April 1 and October 15. Construct the cuts and fills along the proposed driveway and install the drainage pipes, drainage inlets, rock rip rap, and retaining walls, concrete "V" ditches and/or lined swales. Erosion control measures shall be implemented by October 15, or in the event of inclement weather. Work shall continue through the winter to complete the project if not completed sooner with permission of the Public Works Director.

b) The proposed schedule for winterizing the site (generally by October 15 of each year the permit is in effect.)

Place fiber rolls or silt fences down slope of exposed soils having a potential of erosion, per plan. Place seed mix and fertilizer and 1 " of straw over exposed soils, or use three steep hydroseed process as shown on plan. Install velocity check dams in swales and water bars as needed if the driveway improvements are not completed prior to the rainy season. Place rock energy dissipater at the outfall of storm drain pipes and/or silt bags as shown or directed by the project engineer. Complete installation on or before October 1. Call for inspection by October 7 to confirm winterizing of site.

c) The proposed schedule of installation of all interim erosion and sediment control measures, including the stage of completion of such devices at the end of the grading season (generally October 15) of each year the permit will be in effect.

As an interim measure one inch of straw will be spread over all exposed earth surfaces which have a potential for erosion, when the chance of rain is over 70% as determined by the National Weather Bureau. Install velocity check dams in swales and water bars as needed if the driveway improvements are not completed prior to the rainy season. Place rock energy dissipater at the outfall of storm drain pipes as shown. Complete installation on or before October 1.

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October 11, 2007

d) The schedule for installation of permanent erosion and sediment control devices where required.

Permanent erosion control measures shall be completed prior to the beginning of winter, or as soon as possible.

9) The estimate cost of implementation of the erosion and sediment control measures.

Estimated cost will be \$30,000.

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#### RANDAL E. BRYANT, P.E., P.L.S.

R.C.E. No. 045115 - P.L.S. No. 6591

Civil & Structural Engineering - Land Surveying & Planning

February 25, 2008

Ms. Mary Doyle Principal Planner Napa County Conservation Development & Planning Department 1195 Third Street, Room 210 Napa, CA 94559

Subject: Environmental Review for Oakville, LLC /Robert M. Yeakey Use Permit Exception #99141-UP (for slopes over 30%) A.P.N. 027-310-031 & 032

#### Dear Mary:

In response to our last meeting on Thursday February 7, 2008 I have amended the attached plan for parcel 027-310-031. The plan is still shown as revision 3, however it is now dated 2-25-08 to correspond to today's submittal. Additionally an exhibit has been prepared showing how the fill could be reduced in the entrance area of the driveway. This exhibit is titled "Driveway Alternative STA 0+00 TO 8+00 3:1 FILL EXHIBIT". The driveway alternative reduces the amount of fill placed on site by approximately 16,000 cubic yards. This will equate to approximately 640 truck trips at 25 yds per truck using transfer trailer trucks. At 4 trips per day per truck using 6 trucks per day, a total of 27 working days would be required to move the 16,000 cubic yards to an approved fill site that meets Napa County requirements.

According to the memo, dated 1-16-08, from Drew Lander at Napa County Public Works we have also included drainage calculations verifying that the existing 18" CMP drain pipe at Dry Creek Rd. is sufficient to handle the storm water flows from the subject project. A plan check response letter is also provided for your information to show how we have addressed the comments of Drew Landers memo in the new revised plan set. I appreciate your attention to detail on this project, and please call if you have any questions or require further clarification of any of the information we have provided.

Sincerely

Randal E. Bryant, P.E., P.L.S.

REB Engineering, Inc.

cc: Rob Yeakey cc: Allan Moore cc: Jeff Redding

Phone: 707.963.8638 Fax: 707.963.2346 E-mail: randy@REBengineering.com

345 La Fata Street, Suite-B, St. Helena CA 94574

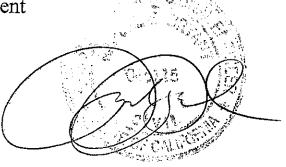
#### R.E.B. ENGINEERING, INC.

CIVIL AND STRUCTURAL ENGINEERING
SURVEYING AND LAND PLANNING

#### OAKVILLE LLC DRIVEWAY AT DRY CREEK ROAD

#### **HYDROLOGY/HYDRAULICS CALCULATIONS**

Prepared for Napa County Public Works Department



REG.EAR.9.30.08

RECEIVED

FEB 2 5 2008

NAPA CO. CONSERVATION

Job# 98-10111G Date: 2/25/08

> P.O. Box 113, St. Helena, CA 94574 Phone: (707) 963-8638 Fax: (707) 963-2346

#### STORM WATER POLLUTION PREVENTION **PLAN**

#### FOR THE

#### OAKVILLE LLC. & PACIFIC COAST VENTURE CORP. **PROPERTIES**

#### OAKVILLE, CA APN 027-310-033 & 027-310-031

OWNER:

ROB YEAKEY.

CONTRACTOR: MARK HAMMOND

ENGINEER:

R.E.B. ENGINEERING, INC.

WASTE DISCHARGE ID: to be assigned

CONTACT:

RANDAL E. BRYANT

R.E.B. ENGINEERING, INC.

345 LA FATA ST., SUITE B

P.O. BOX 113

ST. HELENA, CA 94574

DAYTIME PHONE: (707) 963-8638

EMERGENCY: (707) 815-0975



#### IV. TABLE OF CONTENTS

SCRIPTION	PAGE
TITLE	1
CERTIFICATION PAGE	2
AMENDMENTS	3
TABLE OF CONTENTS	4
INTRODUCTION	9
SOURCE IDENTIFICATION	10
Project Phasing & Construction Sequences	10
. Topography Map	11
. Site Map / ECP	12
NARRATIVE DESCRIPTION	13
Site estimates and description of on-site soils	13
Pollutants likely to be present in storm water discharges	13
Toxic materials	13
Erosion and sediment control practices	14
1. General Practices	14
2. Soil Stabilization Practices	15
3. Practices to Reduce the Tracking of Sediment Onto Roadways	15
4. Wind Erosion	15
5. Practices to Minimize Pollutant Contact with Storm Water	15
5. Construction Material Loading, Unloading and Access Areas	16
7. Waste Management and Disposal	16
3. Pre-Construction Erosion Control Practices	17
Non-Storm Water Management	17
1 2 3 4 5 6 7	CERTIFICATION PAGE  AMENDMENTS  TABLE OF CONTENTS  INTRODUCTION  SOURCE IDENTIFICATION  Project Phasing & Construction Sequences  Topography Map  Site Map / ECP  NARRATIVE DESCRIPTION  Site estimates and description of on-site soils  Pollutants likely to be present in storm water discharges  Toxic materials  Erosion and sediment control practices  General Practices  Soil Stabilization Practices  Practices to Reduce the Tracking of Sediment Onto Roadways  Wind Erosion  Practices to Minimize Pollutant Contact with Storm Water  Construction Material Loading, Unloading and Access Areas  Waste Management and Disposal

F.	Maintenance, Inspection and Repair of Erosion Control Measures 17
G.	Spill Prevention and Control
1.	Minor Spills
2.	Major Spills19
H.	Post-Construction Storm Water Management
I. Pe	ersonnel Training19
J.	List of Contractors / Subcontractors
K.	Other Plans (in order of relevance to SWPPP)19
L.	Monitoring and Reporting Requirements
1.	General Plan Summary
2.	Site Inspections20
3.	Compliance Certification
4.	Noncompliance Reporting
5.	Records
Appendix	x A21
INTRODU	JCTION22
HYDROL	OGICAL ANALYSIS23
Run of	f calculation23
Rain	fall/precipitation23
Run	off coefficient23
Raint	fall intensity & Time of concentration25
HYDRAU	LIC DESIGN OF STORM DRAINS37
CONCLU	SION42
LIMITATI	ONS AND MAINTENANCE42
Appendix	В43
INTRODU	JCTION39
CATCHM	ENT CHARACTERISTICS39

A AVAILABLE	42
infall Data	42
infall Time series	44
ow Data	50
il	50
DEL SET UP	53
sed on rainfall frequency	53
sed on rainfall data	56
SUSSION AND CONCLUSION	59
PORTIVE CALCULATIONS	60



Civil & Structural Engineering - Land Surveying & Planning

# FOR THE GRADING OF OAKVILLE LLC

&

PACIFIC COAST VENTURE, CORP.
RESIDENCE & DRIVEWAYS

#### **Table of Contents**

Introduction	1
Excavation & Tunneling Equipment	Section A
Soil Nailing and Facing System	Section B
Soil Nailing	Section C
CAT Track-Type Tractor & Compactor	Section D
CAT Articulated Truck (Hauler)	Section E
Erosion Control Exhibits	Section F
Grading Permit Applications	Section G

1130 CAYETANO COURT

musci@musci.com

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#### **OAKVILLE LLC RESIDENTIAL DEVELOPMENT** AND VINEYARD CONVERSION PROJECT

**BIOLOGICAL RESOURCES RECONNAISSANCE SURVEY** AND SPECIAL STATUS PLANT STUDY

> **OAKVILLE GRADE** NAPA COUNTY (APN 027-310-031-000, 027-310-032-000)

> > (MUSCI JOB# BS-07-77)

28 AUGUST 2007

This report presents information on wildlife and plant species, including sensitive native species, on lands proposed by Oakville LLC for vineyard conversion and residential construction located in the Mayacama Range at northwest of the intersection of Mt Veeder Road and Oakville Grade west of Oakville in Napa County (APN 027-310-031-000 and 027-310-032-000) (see Site Map, Figure 1).

The purpose of the field review is to conduct biological field surveys of the project area. In addition, the survey addresses whether special status plant species occur or may be impacted by the project. This report summarizes the field observations and presents information on wildlife and plant species and their habitats occurring within the areas proposed for vineyard conversion. This report incorporates information to satisfy County of Napa requirements for both the Biological Resources Reconnaissance Survey and the Special Status Plant Study.

#### PROJECT AND SITE DESCRIPTION

The project proposes construction and occupancy of two residences (including well and septic systems), construction of a shared driveway off of Dry Creek Road, installation of a water tank and conversion of approximately 5 acres of the parcel to vineyard (see Project Plan, Figure 2). The proposed vineyard would be located on the southernmost panhandle of the parcels close to Dry Creek Road in existing ravines and draws

MUSCI NATURAL RESOURCE ASSESSMENT

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Date: 10-11-07

## RANDAL E. BRYANT, P.E., P.L.S.

R.C.E. No. 045115 - P.L.S. No. 6591

Civil & Structural Engineering - Land Surveying & Planning

OAKVILLE LLC.

(A.P.N. 027-310-031)

&

PACIFIC COAST VENTURE CORP.

(A.P.N. 027-310-032)

# HYDROLOGICAL ANALYSIS AND HYDRAULIC CALCULATIONS

#### DRAINAGE STUDY REPORT

Prepared for

Napa County

Public Works Department

Job # 1998-10111

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# HYDROLOGICAL ANALYSIS AND HYDRAULIC CALCULATIONS

DRAINAGE STUDY REPORT

Prepared for

Napa County

Public Works Department

Job # 1998-10111

Date: 10-11-07



March 29, 2007

Job No. S49.01

Robert Yeakey 3082 White Sulphur Spring Road Saint Helena, CA 94574

Subject:

Design Level Geotechnical Investigation

Proposed Residence & Private Driveway

Campbell Creek Ranch, Parcel #7

APN 027-310-031 Dry Creek Road Oakville, California

PJC & Associates, Inc. (PJC) is pleased to submit this report which presents the results of our design level geotechnical investigation for the proposed residence and private driveway located on Dry Creek Road in Oakville, California. The approximate location of the site is shown on the Site Location Map, Plate 1. Our services were completed in accordance with our proposal for geotechnical engineering services, dated November 21, 2006. This report presents our engineering opinions and recommendations regarding the geotechnical aspects of the design and construction of the proposed project. Based on the results of this study, it is our opinion that the site can be developed from a geotechnical engineering standpoint provided the recommendations presented herein are incorporated in the design and carried out through construction.

#### 1. PROJECT DESCRIPTION

Based on the preliminary grading plans and information provided by R.E.B. Engineering, Inc., it is our understanding that the proposed project will consist of improving the site and constructing a single family residence with an attached garage. The residence will consist of a one or two story, wood frame structure with raised wood floors in living areas and a concrete slab-on-grade floor in the garage. The project will also include the construction of a 5000-foot long asphalt paved, private driveway to access the residence. The construction of the driveway will include the construction of two tunnels, soil nail retaining walls and mechanically stabilized slopes. The project will be serviced by underground municipal utilities, a private on-site septic sewer system and a private on-site domestic well.

October 31, 2007

Job No. S49.02

Robert Yeakey 3082 White Sulphur Spring Road Saint Helena, CA 94574

Subject:

Design Level Geotechnical Investigation

Proposed Residence & Private Driveway

Campbell Creek Ranch, Parcel #3

APN 027-310-032 Dry Creek Road Oakville, California

PJC & Associates, Inc. (PJC) is pleased to submit this report which presents the results of our design level geotechnical investigation for the proposed residence, tennis court, swimming pool and private driveway located on Dry Creek Road in Oakville, California. The approximate location of the site is shown on the Site Location Map, Plate 1. Our services were completed in accordance with our agreement and your authorization to proceed with the work. This report presents our engineering opinions and recommendations regarding the geotechnical aspects of the design and construction of the proposed project. Based on the results of this study, it is our opinion that the site can be developed from a geotechnical engineering standpoint provided the recommendations presented herein are incorporated in the design and carried out through construction.

#### PROJECT DESCRIPTION

Based on the preliminary grading plans and information provided by R.E.B. Engineering, Inc., it is our understanding that the proposed project will consist of improving the site and constructing a single family residence with a detached garage, guest house, swimming pool and tennis court. The buildings will consist of one or two story, wood frame structures with raised wood floors in living areas and a concrete slab-on-grade floor in the garage. The swimming pool will consist of reinforced gunite construction and will be constructed below grade. The project will also include the construction of a 1200-foot long asphalt paved, private driveway to access the residence. The project will be serviced by underground municipal utilities, a private on-site septic sewer system and a private on-site domestic well.

#### R.E.B. Engineering, Inc



Civil & Structural Engineering - Land Surveying & Planning

Project #111G 10/8/2007

Subject:

Oakville LLC

Campbell Creek Ranch: Parcel #7

Sewage Feasibility Report

Campbell Creek Road, A.P.N. 027-310-031

Based on the available 70 inches of soil in test pits 1 and 3 from the site evaluation dated June 5, 2006, I have determined that there is sufficient area on the parcel to dispose of the wastewater generated by an 8 bedroom residence using an infiltrator chamber system. The proposed disposal field layout is shown on the attached exhibit.

The soil is sandy clay loam with strong moderate structure, which corresponds to an application rate of 0.33 gallons per square foot per day. Based on a flow rate of 450 gpd for the first 5 bedrooms and 100 gallons per bedroom thereafter, the flow rate will be 750 gpd for a 8 bedroom residence using infiltrator chambers. This amount of wastewater requires 2,272 square feet of sidewall. The proposed layout shows 8 lines at 100 feet, which can provide 2,400 sq feet of sidewall.

For reserve area, the amount of wastewater is calculated differently due to the different system required over the shallow soils. At 120 gallons per bedroom, an 8 bedroom residence is calculated at 960 gallons per day. Based on the soil conditions, the application rate is 0.6 gallons per square foot of field area. 960 / 0.6 = 1,600 square feet. For 200% reserve area, the amount of area required is 3,200 square feet. The attached exhibit shows 13,000 square feet available for a reserve system.

I am hopeful that this letter addresses all of your questions with regard to the feasibility of a residential wastewater system for this parcel. Please call if you have any further questions.

Sincerely/

Kenneth C Deibert Jr, PE,

Civil Engineer

REB Engineering, Inc.

#### R.E.B. Engineering, Inc.



Civil & Structural Engineering - Land Surveying & Planning

Project #111C 10/8/2007

Subject:

Pacific Coast Venture

Campbell Creek Ranch: Parcel #3

Sewage Feasibility Report

Campbell Creek Road, A.P.N. 027-310-032

Based on the available minimum of 40 inches of soil in test pits 3 and 4 from the site evaluation dated June 5, 2006, I have determined that there is sufficient area on the parcel to dispose of the wastewater generated by an 8 bedroom residence using a Geoflow subsurface system. The proposed disposal field layout is shown on the attached exhibit.

The soil is sandy clay loam and clay loam with moderate structure, which corresponds to a Geoflow application rate of 0.6 gallons per square foot per day. At 120 gallons per bedroom, an 8 bedroom residence is calculated at 960 gallons per day. Based on the soil conditions, the application rate is 0.6 gallons per square foot of field area. 960 / 0.6 = 1,600 square feet. For 200% reserve area, the amount of area required is 3,200 square feet. The attached exhibit shows the available area for a reserve system.

It should be noted that this system requires the use of a pretreatment system. We recommend two Advantex AX-20 pods to serve 8 bedrooms.

I am hopeful that this letter addresses all of your questions with regard to the feasibility of a residential wastewater system for this parcel. Please call if you have any further questions.

Sincerely,

Kenneth C Deibert Jr, PE,

Civil Engineer

REB Engineering, Inc.