COUNTY OF NAPA
CONSERVATION, DEVELOPMENT & PLANNING DEPARTMENT
1195 THIRD ST., SUITE 210
NAPA, CA 94559
(707) 253-4416

Initial Study Checklist
(reference CEQA, Appendix G)

1. Project title: Vineyard 22 - Erosion Control Plan #P09-00465-ECPA, Use Permits #P10-00034-UP, #P10-00180-UP and #P10-00181-VIEW (Environmental Review)

2. Property owners: TFC - Vineyard 22 LLC

3. Contact person and phone number: Donald Barrella, Planner III, (707) 299-1338, dbarrell@co.napa.ca.us

4. Project location and APN: TFC – Vineyard 22 located on the east side of Deer Park Road approximately .75 miles north of its intersection with Sanitarium Road: 1156 Deer Park Road, Napa California, (APN 021-420-015) (Figures 1 and 2)

5. Project sponsor's name and address: TFC - Vineyard 22, LLC c/o Thomas Carey, 809 Coombs Street, Napa CA 94559

6. General Plan description: Agriculture, Watershed and Open Space (AWOS)

7. Zoning: Agricultural Watershed (AW)

8. Description of Project.

Vineyard Development:

The project includes earthmoving, clearing of annual grassland, chaparral, and oak woodland, and installation of erosion control measures associated with the development of ±9.7-acres of new vineyard (6.2 net vine acres) within six vineyard blocks located on a 22.61-acre parcel. Typical slopes within the project boundaries range from 5% to 35% with an average slope of 24%: approximately 0.5 acres of vineyard is proposed on slopes over 30%. Fourty trees are proposed to be removed. Rock generated from vineyard development would be utilized in the construction of erosion control measures (terrace benches, outfalls, and energy dissipation area), and for surfacing of the access roads and vineyard avenues. Water from an existing on-site well would be used for vineyard irrigation.

Erosion Control Measures: Temporary erosion control measures include: silt fences, straw waddles, straw mulch applied at a rate of 3,000 pounds per acre, water bars, and installation of erosion control blankets on cut or fill slopes of 4:1 or greater. Permanent erosion control measures include: out sloped terrace benches, cross slope diversions, sub-surface storm drain pipe, energy dissipaters (rocked drainage outfalls, and level spreader), subsurface detention facility, minimum 25 foot wide rocked energy dissipation area with 25 foot wide vegetated filter strip (associated with the level spreader), rolling dips, and a permanent no-till cover crop maintained at a plant residue density of approximately 80%. Details of the proposed erosion control measures are provided in the TFC – Vineyard 22 Erosion Control Plan #P09-00465-ECPA[1], dated January 29, 2010, prepared under the direction of Michael Muelrath (R.C.E. #67435) of Applied Civil Engineering, Napa, California (Figure 3).

Earthmoving: Earthmoving activities associated with the installation of the erosion control measures and subsequent vineyard include, but are not limited to: a ripping to a depth between 12 and 36 inches, land smoothing and contouring, and approximately 10,000 cubic yards of cut and fill (balanced on-site) primarily associated with the development of erosion control measures (out sloped terrace benches and energy dissipation area) and access roads

Other Activities and Features: Other activities and features of the proposed erosion control plan and subsequent vineyard development:

a. Potential blasting of small isolated areas to break up rock formations near the ground surface.
b. Use of an existing paved access road/driveway for vineyard access.
c. Improvement of an access road located at the western corner of the parcel) for temporary construction access.
e. Installation of a 24" culvert associated with one of the new vineyard access roads.
g. Installation of vineyard trellis and drip irrigation systems, and planting rootstock.
h. Installation of wildlife exclusion fencing (8-foot tall deer fencing) around proposed vineyard blocks.
i. Ongoing inspection and maintenance of temporary and permanent erosion control measures.
j. Ongoing operation and maintenance of the vineyard, which includes: hand farming of all vineyard blocks, vine management (pruning, fertilization, pest, and disease control), weed control, frost protection (via late pruning), irrigation and trellis system maintenance, and fruit harvesting.
l. Installation of two water storage tanks (anticipated capacity 10,000 gallons each).
m. Installation of a new well (permit #E09-00458).

:

[1] Application materials and associated background information are on file and available for review at the Napa County Conservation, Development and Planning Department.

Table 1 lists a schedule for the proposed earthmoving, clearing, and construction of the proposed project. Table 2 outlines ongoing vineyard operations. The final implementation schedule is pending approval of #P09-00465-ECPA:

TABLE 1 – IMPLEMENTATION SCHEDULE

April to September	Clear existing vegetation, rip vineyard, rock removal, and land contouring. d.
May to September	Incorporated soil amendments as needed, install erosion control measures and drain system, install irrigation and trellis systems, plant rootstock.
September/October	Seed/plant cover crop on entire vineyard including avenues, spread mulch, irrigate cover crop, install sediment barriers, and install waterbars.
October to May of the subsequent year.	Maintain erosion control measures during rainy season. Reseed cover crop and apply mulch as needed to maintain appropriate cover of any storm damaged areas.*
May & Beyond	See annual maintenance schedule.

*During the winter months (October 1 to April 1 of the succeeding year), no earthmoving work is allowed by the County (Section 18.108.027.C, Conservation Regulations, Sensitive domestic water supply drainages).

TABLE 2 - ANNUAL MAINTENANCE FOR ALL VINEYARD BLOCKS

March	a. Pruning and tying vines.
May - July	a. Sulfur applications to protect against powdery mildew. b. Mowing cover crops
September	a. Harvest.
October	a. Finish harvest. b. Winterize vineyard, vineyard avenues, and vineyard roads.
November - April	a. Monitor and maintain erosion control measures, (cover crop, drain lines, culverts, waterbars, rolling dips, level spreader, energy dissipation area, and diversion ditches) during rain events.

Implementation of the project will be in accordance with the Vineyard 22 ECPA, and the accompanying narrative prepared under the direction of Michael Muelrath (R.C.E No. 67435). The vineyard project is further described in the application materials and *Supplemental Project Information* of #P09-00465-ECPA. All vineyard project documents are incorporated herein by reference and available for review in the Napa County Conservation Development and Planning Department.

Winery Development:

The owner submitted a Winery Use Permit application (#P10-00034-UP) on February 2, 2010, for the development of a 10,000 gallon winery that would include the following:

- Approximately 10,500 sq. ft. of caves with 3 portals; activities to occur within the caves include receiving, crushing, fermentation, barrel and equipment storage, winery office and lab, and catering kitchen.
- Approximately 5,400 sq. ft. of outdoor work area (includes cover and uncovered work areas, mechanical and storage areas, and terrace).
- Removal of 16 trees;
- One full-time and two part-time employees;
- Development of parking area that includes nine parking spaces;
- Installation of drainage improvements and subsurface detention facility;
- By-appointment tours and tastings with a maximum of 15 visitors per day and 50 per week;
- A marketing plan with nine 30-person marketing events and a tenth event that is participation in "Auction Napa Valley" with up to 100 attendees;
- Installation of a winery access road that includes improvements to a portion of an existing paved access drive to winery road standards;
- Installation of a new domestic and process wastewater treatment systems with subsurface disposal;
- Installation of a water storage tank (anticipated capacity 30,000 to 50,000 gallons) located on an existing gravel pad within the northeastern portion of the parcel;
- A Conservation Regulation Exception Use Permit (#P10-000xx-UP) for the development of the proposed winery on a building site with a greater than 30% slope; and,
- A Viewshed Protection Program Use Permit (#P10-000xx-VIEW) for the development of the proposed winery on a building site with a slope greater than 15% that would be visible from a designated viewshed road (i.e. Deer Park Road).

A majority of the winery operations are proposed to occur within the caves. There are no accessory buildings proposed and cave spoils will be off-hauled. For the purposes of this initial study the proposed winery development and associated use permits are referred herein as the winery project and/or #P10-00034-UP. The winery project is further described in the application materials and *Supplemental Project Information* of #P10-00034-UP. All winery project documents are incorporated herein by reference and available for review in the Napa County Conservation Development and Planning Department.

The winery use permit application and associated use permits are subject to the County's Planning Division review and processing. Action on the winery project use permit applications will be by the Napa County Conservation Development and Planning Commission (CDPC). Hearings associated with the use permits will be duly noticed pursuant to County Code Section 18.136.040. At that time the CDPC will consider the merits of the use permit requests and the adequacy of the final environmental document prior to taking action on Use Permits #P10-00034-UP, #P10-00180-UP, and #P10-00181-VIEW.

9. Describe the environmental setting and surrounding land uses.

The proposed vineyard development project and winery development project would occur on a 22.61-acre parcel (the subject parcel) located on the east side of Deer Park Road approximately 0.75 miles north of its intersection with Sanitarium Road. The ±9.7-acre vineyard project area is located predominately around the periphery of the subject parcel on either side of a seasonal drainage course that bisects the property. The ±0.6-acre winery project area (not including cave area) is located within the western portions of the site (Figure 4). An existing paved driveway provides access to the subject parcel and project sites directly from Deer Park Road: the access point of the existing drive is within the northern corner of the parcel (Figures 1 and 2). The subject parcel is bordered to the north south and east by rural residences and undeveloped land and to the west by Deer Park Road. Deer Park Road is identified as a scenic roadway in the Napa County General Plan and in the County's Viewshed Protection Program (N.C.C. Chapter 18.106).

General topography of the area consists of western facing hillsides associated with the northeastern end of Napa Valley. More sloped terrain containing canyons and peaks (elevations over 2700 feet) associated with and Rattle Snake Ridge and Bell Canyon is located to the north and Howell Mountain (elevations over 1900 feet) to the east. The project site is located at elevations between 1030 and 1350 feet, generally within the foothills associated with Howell Mountain. General topography of the project site consists of gentle to steeply west facing slopes that range from 5% to 35% with an average slope of 24%.

Bedrock of the area consists of Early Tertiary Assemblages. No faults have been mapped on the project site: the nearest mapped faults are located the over 2 miles to the southeast and over 5 miles to the south west. The West Napa fault and Green Valley fault are located over 11 miles and 19 miles, respectively, to the south of the subject parcel (Napa County GIS: Faults, West Napa Fault and Alquist-Priolo fault layers). Soils of the subject parcel consist of the following: Rock outcrop-Kidd Complex 50 to 75% slopes (Series #177), Kidd loam 15 to 30% (Series #155), and Boomer gravelly loam 30 to 50% (Series #109). Within the project area the soil type is exclusively Rock outcrop-Kidd Complex (Series #177): Kidd loam soils (Series #155) are located in the northeast corner of the parcel and Boomer gravelly loam soils (Series #109) are located in the southern end of the parcel. The Rock outcrop-Kidd Complex soil type exhibits rapid runoff and very high erosion potential (USDA, Soil Survey of Napa County, 1978).

The vegetation types of the area and the subject parcel generally consists of the following: chamise chaparral, coast live oak woodland, annual grassland, and vineyard. Within the subject parcel vegetation types are as follows: approximately 5.6-acres of coast live oak woodland located primarily in the central portion of the parcel and smaller locations at the southern and northeastern corners of the parcel, approximately 1.3-acres of introduced/non-native annual grassland located in small patches within in the western portion of the parcel, and approximately 14.9-acres of chamise chaparral located throughout the parcel (see Figure 5).. Approximately 0.7-acres of the parcel are considered ruderal due to previous development (as described below).

The project site is located in the Bell Creek drainage: an unnamed tributary to Bell Creek is located approximately 0.15 miles to the west of the subject parcel. Bell Creek is located approximately 1 mile to the west of the subject parcel. The subject parcel and project area do not drain directly into Bell Creek or this unnamed tributary; runoff generally runs overland to the southwest towards Deer Park Road where it concentrates in one of two storm drains that collects runoff along the eastern side of Deer Park Road. The storm drains convey water under Deer Park Road, which outfalls below Deer Park Road into the grassland/shrubland to the west. Bell Creek connects to Canon Creek approximately 2 miles southwest of the parcel then ultimately to the Napa River located approximately 2.4 miles to the southwest of the parcel. An unnamed tributary to Canon Creek is located approximately 0.2 miles to the southeast; this tributary is within the Canon Creek drainage. The subject parcel does not drain into this unmanned tributary of Canon Creek or the Canon Creek watershed. (Figure 1). A seasonally active drainage channel, running from east to west, bisects the parcel: this channel ultimately outfalls along Deer Park Road.

Surrounding land uses include rural residential, vineyard, undeveloped land, wineries. The nearest residences to the project site are located approximately 0.1 miles to the south and southeast: the next closest residences are located over 0.2 miles to the south and east of the project site. The nearest wineries are located approximately 0.2 miles to the west of the project site: (Viader Vineyards Winery with a production capacity of 32,000 gallons and Burgess Cellars with a production capacity of 70,000 gallons. Deer Creek Winery (production capacity 14,400 gallons) is located approximately 0.5 miles to the south. St. Helena Hospital is located approximately 1.1 miles to the south. The nearest school (Foothill Elementary) is located approximately 1.35 miles to the south.

The subject parcel is developed with a paved driveway that provides access from Deer Park Road and a well and well house. Within the northeast portion of the property there is an observation deck, domestic landscaping, and remnants of foundation framing for a residence that was never constructed (building permit #B04-00096): this permit has expired. The subject parcel is not currently fenced.

10. Other agencies whose approval may be required (e.g., permits, financing approval, or participation agreement).

California Department of Fish and Game (1401 permit).
Napa County Conservation Development and Planning Commission (Use Permits)
Napa County Public Works Department (Grading Permit, Encroachment Permit).
Napa County Conservation, Development and Planning Department (Building Permit).

JURISDICTIONAL BACKGROUND: Public Plans and Policies

Based on an initial review, the following findings have been made for the purpose of the Initial Study and do not constitute a final finding by the County in regard to the question of consistency.

Is the project consistent with:	YES	NO	N/A
a) Regional and Subregional Plans and Policies?	☐	☐	☒
b) LAFCOM Plans and Policies?	☐	☐	☒
c) The County General Plan?	☒	☐	☐
d) Appropriate City General Plans?	☐	☐	☒
e) Adopted Environmental Plans and Goals of the Community?	☒	☐	☐
f) Pertinent Zoning?	☒	☐	☐

Responsible (R) and Trustee (T) Agencies
Department of Fish and Game (T)
California Department of Forestry and Fire Protection (T)

Other Agencies Contacted
Napa County Resource Conservation Division
Napa County Department of Public Works

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☒ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☒ Hazards & Hazardous Materials	☒ Hydrology / Water Quality	☒ Land Use/Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☒ Mandatory Findings of Significance	

MITIGATION MEASURES:

__ None Required
__ Identified By This Study - Unadopted (see attached Draft Project Revision Statement)
X Included By Applicant As Part of Project (see attached Project Revision Statement – Figure 8)
__ Recommended For Inclusion As Part of Public Project (see attached Recommended Mitigation Measure List)

BASIS OF CONCLUSIONS:

The conclusions and recommendations contained herein are professional opinions derived in accordance with current standards of professional practice. They are based on a review of the Napa County Environmental Resource Maps, other sources of information listed in the project file, any comments received, conversations with knowledgeable individuals, the preparer's personal knowledge of the area, and site inspections. Other sources of information used in the preparation of this Initial Study include site specific studies conducted by the applicant and filed by the applicant in conjunction with Erosion Control Plan #P09-00465-ECPA and #P10-00034-UP, as described below.

- Northwest Biosurvey, October 2009, Vineyard 22 Property, Biological Assessment with Botanical Survey, Delineation of Water of the US, and Tree Analysis.
- Northwest Biosurvey, January 22, 2010, Addendum to the Vineyard 22 Biological Assessment (October 2009).
- Applied Civil Engineering, October 2009, Hydrologic Study, Vineyard 22.

- Applied Civil Engineering, October 2009, Universal Soil Loss Equation (USLE) Calculations, Vineyard 22.
- Archaeological Services Inc., June 2009, Cultural Resource Reconnaissance, Vineyard 22.
- George W. Nickelson, P.E. October 2009, Focused Traffic Study for a proposed Winery at 1154 Deer Park Road.
- George W. Nickelson, P.E. December 2009, Supplemental Traffic Information for proposed Winery at 1154 Deer Park Road.
- Napa County Geographic Information System (GIS) Sensitivity Maps/layers:
- Condor Earth Technologies Inc., March 2009, Geologic Site Reconnaissance, Parcel at 1156 Deer Park Road.
- Applied Civil Engineering, May 2010, Water System Feasibility Report (Cal Code Water System Information), Vineyard 22.
- Sterk Engineering, October 2009, Wastewater/Septic Feasibility Report, Vineyard 22.
- Applied Civil Engineering, May 2010, Supplemental Wastewater/Septic System Information, Vineyard 22.

All documents used in the preparation of this Initial Study are available in the Napa County Department of Conservation, Development and Planning (CDPD) permanent files for review and are incorporated herein by reference.

AGENCY STAFF PARTICIPATING IN THE INITIAL STUDY:

Resource Evaluation:	Donald Barrella, Planner III, CDPD, December 2009 through February 2010
Site Review/Inspection:	Donald Barrella, Planner III, CDPD, October 29, 2009
Planning/Zoning Review:	Donald Barrella, Planner III, CDPD January 2010

PRELIMINARY DETERMINATION:

___ No reasonable possibility of environmental effect has been identified, and a Negative Declaration should be prepared.

X A Negative Declaration cannot be prepared unless all identified impacts are reduced to a level of insignificance or avoided.

DATE: December 29, 2009 BY: Donald Barrella

FINAL DETERMINATION. (by Napa County)

On the basis of this initial evaluation:

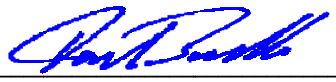
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature

June 4, 2010
Date

Donald Barrella
Printed Name

Napa County Conservation, Development & Planning
For

PROPOSED MITIGATED NEGATIVE DECLARATION

The Conservation, Development and Planning Director of Napa County has tentatively determined that the following project would not have a significant effect on the environment. Documentation supporting this determination is on file for public inspection at the Napa County Conservation, Development and Planning Department Office, 1195 Third St., Suite 210, Napa, California 94559. For further information call (707) 253-4417.

Owner: TFC - Vineyard 22, LLC

APN: 021-420-015

Action: Environmental review for Erosion Control Plan #P09-00465-ECPA and
Winery Use Permits #P10-00034-UP, #P10-00180-UP, and #P10-00181-VIEW

PROJECT DESCRIPTION

Vineyard Development:
The project includes earthmoving, clearing of annual grassland, chaparral, and oak woodland, and installation of erosion control measures associated with the development of ±9.7-acres of new vineyard (6.2 net vine acres) within six vineyard blocks located on a 22.61-acre parcel. Typical slopes within the project boundaries range from 5% to 35% with an average slope of 24%: approximately 0.5 acres of vineyard is proposed on slopes over 30%. Fourty trees are proposed to be removed. Rock generated from vineyard development would be utilized in the construction of erosion control measures (terrace benches, outfalls, and energy dissipation area), and for surfacing of the access roads and vineyard avenues. Water from an existing on-site well would be used for vineyard irrigation.

Erosion Control Measures: Temporary erosion control measures include: silt fences, straw waddles, straw mulch applied at a rate of 3,000 pounds per acre, water bars, and installation of erosion control blankets on cut or fill slopes of 4:1 or greater. Permanent erosion control measures include: out sloped terrace benches, cross slope diversions, sub-surface storm drain pipe, energy dissipaters (rocked drainage outfalls, and level spreader), subsurface detention facility, minimum 25 foot wide rocked energy dissipation area with 25 foot wide vegetated filter strip (associated with the level spreader), rolling dips, and a permanent no-till cover crop maintained at a plant residue density of approximately 80%. Details of the proposed erosion control measures are provided in the TFC – Vineyard 22 Erosion Control Plan #P09-00465-ECPA[2], dated January 29, 2010, prepared under the direction of Michael Muelrath (R.C.E. #67435) of Applied Civil Engineering, Napa, California (Figure 3).

Earthmoving: Earthmoving activities associated with the installation of the erosion control measures and subsequent vineyard include, but are not limited to: a ripping to a depth between 12 and 36 inches, land smoothing and contouring, and approximately 10,000 cubic yards of cut and fill (balanced on-site) primarily associated with the development of erosion control measures (out sloped terrace benches and energy dissipation area) and access roads

Other Activities and Features: Other activities and features of the proposed erosion control plan and subsequent vineyard development:

a. Potential blasting of small isolated areas to break up rock formations near the ground surface.
b. Use of an existing paved access road/driveway for vineyard access.
c. Improvement of an access road located at the western corner of the parcel) for temporary construction access.
e. Installation of a 24" culvert associated with one of the new vineyard access roads.
g. Installation of vineyard trellis and drip irrigation systems, and planting rootstock.
h. Installation of wildlife exclusion fencing (8-foot tall deer fencing) around proposed vineyard blocks.
i. Ongoing inspection and maintenance of temporary and permanent erosion control measures.
j. Ongoing operation and maintenance of the vineyard, which includes: hand farming of all vineyard blocks, vine management (pruning, fertilization, pest, and disease control), weed control, frost protection (via late pruning), irrigation and trellis system maintenance, and fruit harvesting.
l. Installation of two water storage tanks (anticipated capacity 10,000 gallons each).
m. Installation of a new well (permit #E09-00458).

Winery Development:
The project includes the development of a 10,000 gallon winery that would include the following:

- Approximately 10,500 sq. ft. of caves with 3 portals; activities to occur within the caves include receiving, crushing, fermentation, barrel and equipment storage, winery office and lab, and catering kitchen.
- Approximately 5,400 sq. ft. of outdoor work area (includes cover and uncovered work areas, mechanical and storage areas, and terrace).
- Removal of 16 trees;
- One full-time and two part-time employees;
- Development of parking area that includes nine parking spaces;

[2] Application materials and associated background information are on file and available for review at the Napa County Conservation, Development and Planning Department.

- Installation of drainage improvements and subsurface detention facility;
- By-appointment tours and tastings with a maximum of 15 visitors per day and 50 per week;
- A marketing plan with nine 30-person marketing events and a tenth event that is participation in "Auction Napa Valley" with up to 100 attendees;
- Installation of a winery access road that includes improvements to a portion of an existing paved access drive to winery road standards;
- Installation of a new domestic and process wastewater treatment systems with subsurface disposal;
- Installation of a water storage tank (anticipated capacity 30,000 to 50,000 gallons) located on an existing gravel pad within the northeastern portion of the parcel;
- A Conservation Regulation Exception Use Permit (#P10-00180-UP) for the development of the proposed winery on a building site with a greater than 30% slope; and,
- A Viewshed Protection Program Use Permit (#P10-00181-VIEW) for the development of the proposed winery on a building site with a slope greater than 15% that would be visible from a designated viewshed road (i.e. Deer Park Road).

A majority of the winery operations are proposed to occur within the caves. There are no accessory buildings proposed and cave spoils will be off-hauled.

WRITTEN COMMENT PERIOD: June 7, 2010 to July 6, 2010

DATE: June 4, 2010

BY THE ORDER OF

HILLARY GITELMAN
Director
Napa County Conservation, Development and Planning Department

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
I.	AESTHETICS. Would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

DISCUSSION:

a,b. The project site is located on the east side of Deer Park Road, there is a scenic outlook area located on the west side of Deer Park Road directly across from the subject parcel and project area. The views from the scenic outlook area are predominately to the west and southwest across the Napa Valley, not eastward toward the proposed development. While the proposed vineyard and winery would be partially visible from the outlook area looking east, their affect on scenic resources would be minimal. Views of vineyard would be consistent with the area as there are other hillside vineyards located in the area. Views of the proposed winery would be limited to minimal fill slopes, which are proposes to be vegetated and of portions of the winery structure, which include portions of a trellis and wall that houses mechanical features of the winery. Highway 29 is located over 2.5 miles to the west of the project site, views of the project site from Highway 29 would be obscured by geologic features or of the upper (eastern) portion of the parcel. The project is not visible from a state scenic highway: there are no scenic highways in the area (CA Department of Transportation website: http://www.dot.ca.gov/hq/LandArch/scenic/schwy.htm). Visual analysis and visual simulations have been provided (Figure 4).

The site is not located on a major or minor ridgeline; more prominent topographic features are located to the north, south, and east of the project site. There are no significant rock outcroppings or geologic features on the parcel that would be impacted by either of the proposed projects (Site inspection conducted by Napa County Staff October 2009). Approximately 56 trees are proposed for removal (40 for vineyard development and 16 for winery development). The trees proposed for removal for the vineyard development are predominately located in the northern and northeastern portions of the parcel where existing woodland would screen/obscure the effects of their removal. Trees proposed for removal associated with the winery development are predominately located in southwestern corner of the site in the vicinity of the existing access to the parcel and do not provide a significant visual resource, the larger intact woodland located in the central portion of the parcel currently provides a more prominent visual resource related to trees.

Considering the location and scale of the proposed developments, the proposed projects would have a less than significant effect on a scenic vista or a state scenic highway, as described above.

Application, review, and action (including necessary findings) of the Viewshed Protection Program (Napa County Code Chapter 18.106) for the development of the proposed winery on a building site with a slope greater than 15% that would be visible from a designated viewshed road (i.e Deer Park Road), will be conducted as part of the review and processing of winery Use Permit (#P10-00034-UP etal). However, as stated above the winery is not anticipated to have a significant impact on visual resources in the context of CEQA. Also see subsection c below for additional discussion of aesthetic resources.

c. As discussed in subsection a-b above the proposed vineyard and winery are not anticipated to have a significant negative effect on visual resources of the site or area. There are several other hillside vineyards sites located within a mile of the subject parcel and eight wineries (4 producing and 4 approved) within a mile of the parcel. Only minor topographic modifications would be necessary to install and sustain the six proposed vineyard blocks and winery. The 56 trees proposed for removal (40 for vineyard development and 16 for winery development) are located in the northern and northeastern portions of the parcel where existing woodland would screen/obscure the effects of their removal, or within the southwestern corner of the site which do not provide a significant visual resource: the larger intact woodland located in the central portion of the parcel currently provides a more prominent visual resource related to trees. Due to the extensive use of rock generated by vineyard development in erosion control measures and surfacing of vineyard avenues and roads on-site rock storage is not anticipated to be significant. Therefore, the proposed project would not substantially degrade the existing visual character or quality of the site or its surroundings resulting in a less than significant impact.

While construction of the winery may potentially alter the scenic character of the project site as viewed from Deer Park Road, a scenic roadway identified in the Napa County General Plan and in the County's Viewshed Protection Program (N.C.C. Chapter 18.106). The Viewshed Protection Program provides a process for the review of aesthetic impacts associated with hillside projects and establishes standards for their review.

Under the Viewshed Protection Program structures and roadways are required to be located, designed, and landscaped in a manner that reduces off-site visual impacts. The use of existing natural vegetation, new landscaping, topographically sensitive siting, architectural design which conforms to the County's design manual, and an earthtone color palette are all mentioned in the Viewshed Protection Program as viable ways to reduce visual impacts and "screen the predominant portion" (defined as 51% or more of viewable areas) of a subject development. The winery could not be approved unless the County finds it in conformance with the Viewshed Protection Program, which is expressly designed to protect the scenic quality of the County and to promote site planning and architectural design that are compatible with hillside terrain and which minimize visual impacts (for reference, see N.C.C. §18.106.010). The Viewshed Protection Program insures that the winery development has addressed potentially significant visual impacts. By definition, such a project, while noticeable from surrounding areas, would not substantially degrade scenic views or visual quality pursuant to the California Environmental Quality Act (CEQA). Some of the features of the proposed winery that would support Viewshed Protection Program include: setting the development into the hillside to limit visibility from Deer Park Road, limiting retaining wall height necessary for the winery development pad to a maximum of approximately 16 feet, breaking up the visual mass of this primary retaining wall by placing shorter walls and a trellis in front of it (the shorter walls would house components of the winery operation), using earth and textures on walls and the trellis, and landscaping to screen the parking area and walls. Therefore, aesthetic impacts associated with winery development would be less than significant.

d. Earthmoving activities, erosion control plan installation and maintenance, and vineyard installation does not involve the introduction of nighttime lighting. However, subsequent vineyard operation and maintenance requires seasonal operation of equipment using small downward directional lights during harvest and the application of sulfur and pesticides/herbicides for mildew, pest and weed control. Sulfur and pesticide/herbicide applications typically occur from April through August commencing around 1:00 a.m. Harvest typically occurs in September and October commencing around 10:00 p.m.

Lighting associated with the winery is proposed to be shielded. Pursuant to standard Napa County conditions of approval for wineries, outdoor lighting will be required to be shielded and directed downwards with only low level lighting allowed in parking areas. The standard winery condition of approval relating to lighting states that;

> *All exterior lighting, including landscape lighting, shall be shielded and directed downward, shall be located as low to the ground as possible, shall be the minimum necessary for security, safety, or operations, and shall incorporate the use of motion detection sensors to the greatest extent practical. No flood-lighting or sodium lighting of the building is permitted. Architectural highlighting and/or spotting are not allowed. Low-level lighting shall be utilized in parking areas as opposed to elevated high-intensity light standards. All lighting shall comply with the California Building Code.*

The periodic seasonal use of lighting related to vineyard operations and the implementation of standard conditions related to winery uses would not create new sources of substantial light and glare, resulting in a less than significant impact.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES. *(In determining impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland).* Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Important (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

DISCUSSION:

a-c. The project site is not identified as "Prime Farmland," "Farmland of Statewide Importance," or "Unique Farmland" on the April 2005 map prepared by the California Department of Conservation. The parcel has a General Plan designation of Agriculture, Watershed and Open Space (AWOS), and is zoned Agricultural Watershed (AW); therefore, the establishment of ±9.7-acres of new vineyard and implementation of the associated erosion control plan is consistent with the property's land use and zoning designations. Furthermore, development of a winery

on the subject parcel will support the vineyard and is also consistent with the property's land use and zoning designations (provided a use permit is secured). The subject parcel is not under a Williamson Act contract. The proposed vineyard and winery do not include the construction of roadways or other infrastructure that would result in the conversion of existing farmland on the subject parcel or in the area to non-agricultural uses. Therefore, the proposed vineyard and winery would not have an impact on the agricultural resources of Napa County.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
III.	AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
	a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
	b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
	c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
	d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
	e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion:

a-c. The subject parcel is located within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). Short-tem air pollutant emissions resulting from the installation of #P08-00590-ECPA would be limited to earthmoving and/or grading activities. Earthmoving and/or grading activities would generate fugitive dust[3], including particulate matter less than 10 microns in size (PM-10), and other criteria pollutants through grading equipment exhaust and vehicular haul and worker trips (see Section XV, Transportation/Traffic, for anticipated number of haul and worker trips). The BAAQMD CEQA guidelines (1999) recommend that determination of significance with respect to construction impacts be based not on quantification of emissions and comparison to thresholds, but upon inclusion of feasible control measures for PM-10. The BAAMQD CEQA guidelines list a number of control measures that avoid or reduce potential air quality impacts, however, these control measures are directed primarily at development projects and not agricultural projects. Generally vineyards and their associated activities, including equipment used in agricultural operations, are exempt from BAAQMD permit requirements and regulations pursuant to BAAQMD Regulation 1, Rule 1-110-5 and Regulation 2, Rule 2-1-113.1.

A site specific Storm Water Pollution Prevention Plan (SWPPP) would be required for the winery development prior to its construction. The SWPPP will include Best Management Practices (BMPs) that are consistent with County Code Section 18.108.080c, as well as, with Regional Water Quality Control Board guidance from the Storm Water Best Management Practice Handbooks for Construction and for New Development and Redevelopment, and the Erosion and Sediment Control Field Manual. The SWPPP is primarily designed to prevent pollutants associated with winery construction activities from contacting storm water and prevent sediments from moving off-site into any receiving waters. The SWPPP would be reviewed by the Regional Water Quality Control Board San Francisco Bay Region 2 and the Napa County Department of Public Works.

Particulate Matter: Proposed erosion control measures for the project identified in #P09-00465-ECPA have the similar intent of keeping soil and sediment securely within the proposed project sites. Dust control measures specified in #P09-00465-ECPA include a cover crop with at least 80% vegetative coverage on vineyard blocks, vegetal or crushed rock surface on all vineyard avenues and roads, hand farming of all vineyard blocks, and the application of straw mulch at a rate of 3,000 pounds per acre per acre over disturbed areas. Furthermore, project approval, if granted, would be subject to the following standard conditions, identified in part from Table 2 of the *BAAQMD CEQA Guidelines*, as referenced in the County's CEQA guidelines, would further avoid and/or reduce potential air quality impacts associated with vineyard development. Additionally, the vineyard would be hand famed, therefore the use of vehicles used in vineyard operation that could generate dust would be reduced.

Air Quality - Standard Conditions of Approval:

- All exposed stockpiles shall be covered.
- All trucks hauling soil, sand and other loose materials shall be covered or all trucks shall maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer) in accordance with Section 23114 of the California Vehicle Code during transit to and from the site.

[3] "Fugitive" emissions generally refer to those emissions released to the atmosphere by some means other than through a stack or tailpipe.

- The driveway and site access and to the extent necessary Deer Park Road, shall be swept daily (preferably with water sweepers), if visible soil material is carried onto the driveway and street.
- Traffic on unpaved areas and roads shall be limited to 15 mph.
- Grading and earthmoving activities shall be suspended when winds exceed 25 mph.

The SWPPP required for the winery development is primarily intended to keep soil and sediment securely within the proposed project site. However implementation of the BMPs within the SWPPP would also provide measures to control particulate matter during the development of the winery. Additionally, the winery use permit would also be subject to the standard air quality condition above. Therefore, with the implementation of the SWPPP and standard air quality conditions would result in a less than significant impact associated with particulate matter associated with winery development.

Criteria Pollutants: The BAAQMD traffic criteria state construction projects that generate less than 100 construction vehicles per hour would generally not be expected to have potentially significant air quality impacts. Emissions associated with installation of #P09-00465-ECPA (earthmoving/grading activities) are accounted for in BAAQMD's emission inventory basis for regional air quality plans. The BAAQMD has also determined that land uses that generate fewer than 2,000 trips per day would not generally be expected to have a potentially significant air quality impact: specifically, they would not be expected to generate over 80 pounds of reactive organic gasses (ROG – a precursor to ozone)[4]. Furthermore, burning of cleared vegetation is not anticipated to produce substantial emissions because a maximum of 56 trees are proposed for removal as part of the vineyard and winery development projects (also the discussion and mitigation measures in Section IV Biological Resources that would reduce proposed tree removal of the vineyard development project).

The vineyard proposed project is anticipated to generate between 12 and 32 trips per day during installation: work crews would vary in size between 6 and 16 employees. Anticipated vehicular equipment necessary for the proposed vineyard project includes a tractor/trailer, three bulldozers (D8 and/or D6), backhoe, excavator, water truck, loader, pickup trucks, and tractor and trailer to deliver equipment. After ECPA and vineyard installation, routine vineyard maintenance activities are anticipated to generate 3 to 4 employees per week resulting in 2 to 4 trips per week. Weed control, frost control (via late pruning), and pruning, which occur periodically throughout the year, are anticipated to generate between 5 and 10 employees resulting in 2 to 4 trips per day on days when these activities occur. Harvest is anticipated to generate between 6 and 10 employees resulting in approximately 4 round trips per day. Importation of grapes (i.e. grape haul trucks) to the winery is anticipated to be 1 trip per week for approximately 6 weeks during harvest. Vehicular equipment anticipated for ongoing vineyard maintenance includes ATV's, tractor, 4 to 16 ton grape haul truck, and passenger cars and/or light trucks.

Winery development is anticipated to generate up to approximately 27 trips per day; a majority of the trips are associated with the off-haul of cave spoils. The winery use is anticipated to include 1 full-time employee, 2 part-time employees, tours and tasting by appointment only, nine annual marketing events with a 30 person maximum, and one 100 person event associated with the Napa Valley Wine Auction (a shuttle bus will be utilized to transport visitors associated with the wine auction event). The anticipated trips associated with the winery are as follows: 7 daily round trips during a typical weekday; 15 daily round trips during a typical weekend; 29 daily round trips during smaller marketing events; and, 22 daily round trips during the wine auction event (tours and tasting will not be conducted on days of marking events or the auction event).

Overall the anticipated number of maximum daily tips associated with vineyard development is anticipated to be approximately 15 trips per day, and subsequent operation (including harvest) is anticipated to be approximately 4 trips per day. The number of maximum daily tips associated with winery development is anticipated to be approximately 27 trips per day, and subsequent operation (including marketing events) is anticipated to be approximately 29 trips per day. Once the vineyard is developed and the winery is operational anticipated traffic during harvest in conjunction normal winery operations is anticipated to be 19 trips per day. Because the anticipated number of maximum daily trips associated with development (i.e. construction) of either the vineyard or winery and the anticipated number of maximum daily trips associated with ongoing operation of either the vineyard or winery would be less than the established thresholds of significance identified above, impacts associated with criteria pollutants are anticipated to be less than significant.

Climate Change, Green House Gasses (GHG): In 2006, the State Legislature enacted Assembly Bill 32, requiring the California Air Resources Board (CARB) to design measures and rules to GHG emissions statewide to 1990 levels no later than 2020. The measures and regulations to meet the 2020 target are to be put into effect by 2012, and the regulatory development of these measures is ongoing. In August 2007, the State Legislature enacted Senate Bill 97, which among other things, directed the Governor's Office of Planning and Research (OPR) to propose new CEQA Regulations for the evaluation and mitigation of GHG emissions. Resulting amendments to the State CEQA Guidelines became effective March 2010. Even with the adoption of these Guidelines, neither the State nor Napa County will have adopted explicit thresholds of significance for GHG emissions, although the Bay Area Air Quality Management District (BAAQMD) is currently on this task. In the absence of explicit thresholds, some might argue that any new GHG emission would be significant under CEQA; however, pending amendments to the State CEQA Guidelines and the BAAQMD's ongoing effort, suggest that agencies may conclude otherwise, and may also consider the extent to which a project complies with requirements adopted to implement a statewide, regional, or local plan for reduction or mitigation of greenhouse gas emissions.

[4] BAAQMD, BAAQMD CEQA Guidelines, p. 23-24

The Napa County General Plan calls on the County to complete an inventory of GHG emissions from all major sources in the County by the end of 2008, and then to seek reductions such that emissions are equivalent to year 1990 levels by 2020. The General Plan also states that "development of a reduction plan shall be consideration of a 'green building' ordinance and other mechanisms that are shown to be effective at reducing emission." Overall increases in GHG emissions in Napa County were assessed in the Environmental Impact Report (EIR) prepared for the Napa County General Plan Update and certified in June 2008. GHG emissions were found to be significant and unavoidable despite adoption of mitigation measures that incorporate specific policies and action items into the General Plan. Additionally, the Napa County Transportation and Planning Agency (NCTPA) has recently completed an initial inventory of county-wide GHG emissions, as well as a "climate action framework." Based on this initial effort, Napa County is currently refining the emissions inventory, and developing a "qualified" emission reduction plan. In the interim, the County requires project applicants to consider methods to reduce GHG emissions consistent with Napa County General Plan Policy CON-65(e).

The ±9.7-acre vineyard development project proposes the conversion of ±0.8-acres of coast live oak woodland (resulting in 40 trees removed), ±8-acres of chamise chaparral, ±0.6-acres of introduced annual grassland and ±0.34-acres of area identified as ruderal (i.e. previously disturbed areas) to vineyard. The winery development project proposes the conversion of ±0.1-acres of coast live oak woodland (resulting in 16 trees removed) and ±0.5-acres of chamise chaparral and introduced annual grassland. During construction, maintenance and ongoing operation of either proposed project there is the potential to increase greenhouse gas (GHG) emissions such as carbon dioxide, PM_{10} and other identified criteria pollutants. GHG emissions appear to be linked to changes in the average weather of the earth that can be measured by wind patterns, storm events, precipitation and temperature, referred to as Global Climate Change (GCC).

The majority of the proposed conversion (±9.7-acres) would include the planting of grapevines and cover crop. Grapevines are photosynthetic plants and therefore have value in terms of carbon capture. Additionally, the use of cover crops, which are also photosynthetic plants, as proposed by the project, tend to result in less soil CO_2 loss from vineyard soils[5]. Photosynthesis is defined as a series of steps whereby a combination of sunlight, carbon dioxide and water are used by living organisms and converted into energy, in this case grapevines and the cover crop. The projects propose the conversion of approximately 0.9 acres of coast live oak woodland, resulting in 56 trees being removed. Additionally, the implementation of Mitigation Measure BR-2 would provide for 16 replacement trees to be planted on-site (see Section IV, Biological Resources).

There would be a release including emissions associated with grading and site preparation for both the vineyard project and winery project. However, over time, the change in land cover types on the project site would result in changes in carbon sequestration, and carbon that is not sequestered in vegetation removed from the site can be thought of as "new" emissions. Photosynthesis is defined as a series of steps whereby a combination of sunlight, carbon dioxide and water are used by living organisms and converted into energy, in this case grapevines are the cover crop. Some of these "new" emissions would be offset by the proposed vineyard, which would likely act as a sink for atmospheric CO2, depending on the longevity of grapevine roots and the quantity of carbon stored in deep roots. In addition to vines, the sequestration of atmospheric carbon is also achieved by the soil between vinerows through cover-cropping and from the breakdown of leaves and vine pruning material. However, specific information on the grapevine and cover-crop sequestration is lacking. Carbon sequestration in vineyard can be increased by management practices such as using no-till systems, sowing winter cover crops, retaining crop residues such as leaves and pruning materials (to allow for decomposition of the conversion into soil organic carbon), and reducing bare fallow. The proposed vineyard cover crop management regime would be no-till.

With regard to the proposed winery, one development component that will have the potential to reduce and/or partially offset new emissions is placing a majority of the operations associated with winemaking within the proposed wine cave, which eliminates the need to mechanically cool and heat the winery facility; thereby, reducing potential emissions and improving the energy efficiency of the operation. Other features of the winery development that have the potential to reduce and/or partially offset new emissions include the installation of landscaping that will be required as part of Viewshed Protection Program (to be reviewed under Use Permit #P10-00034-UP), limiting the amount of non-pervious materials, and utilization of a wastewater treatment facility that eliminates the need for a wastewater pond that would necessitate additional vegetation removal.

Construction, implementation and ongoing operations of the proposed vineyard project and winery project analyzed in this initial study have the potential to contribute to the overall increase in GHG emissions by generating emissions associated with vehicular trips to and from the subject parcel, emission from the use of construction equipment, and from the use of equipment onsite to maintain the agricultural use. Additionally, the project would affect carbon sequestration by modifying vegetation on the project site, which consists of grassland, chaparral and oak woodland. As discussed, installation of the proposed vineyard project and ongoing vineyard operations would: 1) introduce a negligible number of new vehicle trips and/or emission sources to the subject parcel or immediate area; 2) contain other features that are anticipated to minimize and control fugitive dust, criteria pollutants and GHG, such as the vineyard cover crop, vegetated surfaced vineyard avenues, the establishment of grape vines; 3) removal of no more than 40 trees (also refer to Section IV, Biological Resources); 4) hand farming of the entire vineyard which would reduce the need and use of mechanical farming equipment; and 5) be subject to the implementation of standard air quality conditions (if approved). Also, as discussed, the proposed winery project and ongoing winery

[5] See Carlisle et al., Effects of Land Use on Soil Respiration: Conversion of Oak Woodlands to Vineyards, *J. Environ Qual.*2006; 35: 1396-1404. Pierce, D.L., Steenwerth, K.L., Harris, D., Smart, D.R. 2005. Vineyard management methods for carbon sequestration in soil: a stable isotope approach. Soil Science Society of America Annual Meeting.
Carlisle, Eli A. etal., The Influence of Land Conversion on Carbon Mineralization and CO2 Emissions from Vineyard and Adjacent Oak Woodland in the Napa Valley, Department of Viticulture and Enology, University of California, Davis.

operation would 1) introduce a negligible number of new vehicle trips and/or emission sources to the subject parcel or immediate area; 2) contain other features that are anticipated to minimize and control fugitive dust, criteria pollutants and GHG, such as the implementation of a SWPPP, limiting the need to mechanically cool and heat the winery facility, installation of landscaping, and an internal wastewater facility; 3) removal of no more than 16 trees (also refer to Section IV, Biological Resources); and 4) be subject to the implementation of standard air quality conditions (if approved).

Furthermore, as noted Napa County is currently developing an emission reduction plan, and in the interim requires project applicants to consider methods to reduce GHG emissions consistent with Napa County General Plan Policy CON-65(e): as discussed above the vineyard project and winery project include components that are anticipated to reduce and/or partially offset carbon emissions and impacts, resulting in consistency with applicable General Plan Policies.

In light of these efforts, the increase in emissions and loss of carbon sequestration expected as a result of either the vineyard development project or the winery development project and their ongoing operation are considered less than significant. As mentioned above, both projects would contain features anticipated to minimize and control emissions of constituents that could negatively affect air quality, including those that could affect the climate. For these reasons, the vineyard development project and winery development project would have a less than significant impact on air quality, applicable air quality plans, air quality standards. Additionally, the implementation of Mitigation Measure BR-2 would provide for 16 replacement trees to be planted on-site (see Section IV, Biological Resources).

Pursuant to State CEQA Guidelines Section 15183, because this initial study assesses a project that is consistent with an adopted General Plan for which an EIR was prepared, it appropriately focuses on impacts which are "peculiar to the project," rather than the cumulative impacts previously assessed.

d-e. Land uses such as schools, playgrounds, child care centers, hospitals and convalescent homes are considered sensitive to poor air quality, because infants and children, the elderly, and people with health afflictions, especially respiratory ailments, are more susceptible to respiratory infections and other air quality related health problems than the general public. Residential areas are also considered to be sensitive to air pollution because residents, which include children and the elderly, tend to be at home for extended periods of time. Land uses in the immediate vicinity of the subject parcel include agricultural (vineyards), rural residential, and wineries. The closest residences are located approximately 0.2 miles to the south and east. The closest wineries are located approximately 0.2 miles to the west and 0.5 milses to the south. The closest residential areas are the community of Angwin located approximately 1.5 miles to the northeast and the City of St. Helena located approximately 2.5 miles to the south. The closest schools are Foothill Elementary and Pacific Union College Elementary School located over 1.3 miles to the south and 1.7 miles to the east, respectively, of the subject parcel (Napa County GIS: Schools layer). St. Helena Hospital is located approximately 1.1 miles to the south of the subject parcel.

During installation of the erosion control plan, vineyard planting, and subsequent vineyard operations, airborne pollutants and odors would be created through the use of grading and farm equipment (e.g. tractors, trucks, and ATV's) or by sulfur applied to control mildew. These sources would be temporary and/or seasonal in nature occurring at substantial distances from sensitive receptors providing dilution of pollutants and odors. During winery development and subsequent operation airborne pollutants and odors would be created through the use of grading and farm equipment (e.g. tractors, trucks, and ATV's) or by crushing and fermentation of grapes. These sources would be temporary and/or seasonal in nature occurring at substantial distances from sensitive receptors providing dilution of pollutants and odors. Additionally, the proposed agricultural land uses and activities (vineyard and winery development and operation) are consistent with agricultural uses in the surrounding area. Therefore, the proposed vineyard project and winery project would not expose sensitive receptors or a substantial number of people to pollutants or objectionable odors, resulting in a less than significant impact.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IV.	BIOLOGICAL RESOURCES. Would the project:				
	a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
	b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
	c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, Coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion:

a. Special Status Plants: Two special status plant species were identified in the subject parcel and project area: Holly-leaf Ceanothus (*Ceanothus Purpureus*) a California Native Plant Society (CNPS) List 1B.2 species and Small-Flowered death camas (*Zigadenus micranthus var. fontanus*) a CNPS List 4.2 species. CNPS List 1B.2 species are "Rare, Threatened, or Endangered in California and Elsewhere" and are considered fairly threatened in California (i.e. moderate degree/immediacy of threat), CNPS List 4.2 species are "Plants of Limited Distribution - A Watch List" that are considered fairly threatened in California (i.e. moderate degree/immediacy of threat). As proposed the vineyard project and winery project avoid the Small-Flowered death camas. However, the proposed vineyard development project would remove 3 of the 22 Holly-leaf Ceanothus plants within property: the winery development would avoid Holly-leaf Ceanothus. Holly-leaf Ceanothus populations occur in the eastern portions of the parcel in two primary concentrations: within the open channel drainage immediately north of proposed Vineyard Block 3 and east of proposed Vineyard Block 3 (see Figure 3). The three Holly-leaf Ceanothus plants proposed for removal are located in the following locations: one plant along the eastern boundary of proposed Vineyard Block 2, and two plants within the eastern end of proposed Vineyard Bock 3. These three individual plants are not located within the core populations identified above. The Biological Assessment and Addendum (Northwest Biosurvey 2009 and 2010) has concluded that the removal of three individual Holly-leaf Ceanothus plants that are not within the core populations located on the parcel would not be a significant impact to this species or its habitat. However, the potential indirect impacts of Holly-leaf Ceanothus loss adjacent to proposed vineyard blocks due to earthmoving activities and cultivation of vines is considered a potentially significant impact. As proposed the vineyard project provides a minimum 10 foot buffer from remaining ceanothus plants: the biologist has indicated that the 10 foot buffers would be sufficient to avoid adverse impacts to the remaining Holly-leaf Ceanothus (Northwest Biosurvey 2010). To ensure that the remaining Holly-leaf Ceanothus plants are not impacted or removed during vineyard installation and subsequent vineyard operation and maintenance Mitigation Measure BR-1 will be implemented to reduce potential indirect impacts to Holly-leaf Ceanothus populations to a less than significant level.

Mitigation Measure:

Measure BR-1: The applicant/owner shall implement and be subject to the following measures as part of #P09-00465-ECPA to reduce impacts to Holly-leaf Ceanothus populations:

a. Prior to any earthmoving activities, temporary fencing shall be installed a minimum of 10 feet from the outer boundary of Holly-leaf Ceanothus plants/populations proposed for retention. The precise locations of the protection fencing shall be inspected and approved by the Planning Division prior to the commencement of any earthmoving activities. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur within the designated areas for the duration of erosion control plan installation, vineyard installation, and winery related construction. All fencing shall be maintained for the duration of vineyard construction.
b. Wildlife exclusion fencing shall be installed a minimum of 10 feet from Holly-leaf Ceanothus plants/populations to remain.
c. In accordance with County Code Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement) Holly-leaf Ceanothus plants inadvertently removed that are not within the boundary of the project and/or not identified for removal as part of #P09-00465-ECPA shall be replaced on-site at a ratio of 2:1 at locations approved by the planning director. Replant locations will be supported by recommendations of a qualified professional: any replaced Holly-leaf Ceanothus shall have a 100% survival rate.

Special Status Animals: No special status animal species were observed on the subject parcel or project sites during the surveys conducted by Northwest Biosurvey. Furthermore, preferred habitats for many of the special status animal species found in the general vicinity do not occur on subject parcel or with project sites. Therefore, no significant impacts to special status animal species have been identified, nor are expected to occur as a result of the proposed vineyard project or winery project.

b-c. There are no identified riparian, aquatic, wetlands or sensitive natural communities located within the project areas (Northwest Biosurvey, 2009). Therefore, impacts to riparian habitat, wetlands, or other natural communities associated with either the proposed vineyard or winery would be less than significant.

d. The subject parcel does not currently contain any wildlife exclusion fencing. There are remnants of deteriorated boundary fence located in some areas of the parcel: remnant fending is proposed to be removed as part of the project. Proposed wildlife exclusion fencing would be limited to the periphery of vineyard blocks in the following configurations: vineyard blocks 3 and 4 would be individually fenced, vineyard blocks 1 and 5 would be fenced as an individual unit, and vineyard blocks 2 and 6 would be fenced as an individual unit. There is no fencing proposed as part of the winery development.

There were no wildlife nursery sites or defined wildlife movement corridors observed on the subject property (Northwest Biosurvey 2009). Furthermore, if any wildlife corridors were evident they would lead to Deer Park Road: Deer Park Road is located along the parcels southwestern property line and is within 100 feet and 600 feet, respectively, of the parcels western and southern property lines. The small woodland in the central portion of the property is connected to adjacent woodlands to the north and east. As proposed the project would maintain these connections to the woodlands to the north and east of the subject parcel. While the connection to the east does not provide the minimum 100 foot width recommend by the California Department of Fish and Game (CDFG) as a starting point for movement corridors (D. Acomb CDFG, 2006: Gallo Vineyard – Sun Lake Ranch #P04-0446-ECPA), its configuration, which provides widths ranging from 70 to 85 feet in conjunction with its relatively short length (approximately 80 feet), is anticipated to provide adequate area for movement between the on-site woodland and off-site woodland to the east. Additionally the project biologist has concluded that the proposed vineyard layout maintains adequate connections (Northwest Biosurvey 2009). Therefore, the proposed vineyard development project would result in a less than significant impact to the movement of native resident wildlife species.

e. Within the subject parcel vegetation types are as follows: ±5.6-acres of coast live oak woodland (containing an estimated 340 trees) located primarily in the central portion of the parcel and smaller locations at the southern and northeastern corners of the parcel, ±1.3-acres of introduced/non-native annual grassland located in small patches within in the western portion of the parcel and a±14.9-acres of chamise chaparral located throughout the parcel (see Figure 5). Approximately 0.7-acres of the parcels vegetation is considered ruderal due to previous development. The Napa County GIS ICE Vegetation layer currently classifies the coast live oak woodland as coniferous forest. At the County's request the owner/applicant consulted with the California Department of Forestry and Fire Protection (CalFire) to determine the extent of timberland on the parcel and project area, including the winery area. As previously noted the biological assessment prepared by Northwest Biosurvey did not identify coniferous forest within the parcel. However, there are scattered commercial conifer species (specifically Douglas Fir) within the coast live oak woodland. The review conducted by CalFire concluded that commercial conifer tree species and associated timberland as defined by the Forest Practice Rules (Public Resources Code 4526) were not noted in the proposed vineyard or winery project areas; therefore timber harvest and conversion permits are not required as part of the project (Gerri Finn, Division Chief Resource Management, Department of Forestry and Fire Protection, December 29, 2009).

As proposed the Vineyard development would remove the following: ±0.8-acres of coast live oak woodland (resulting in 40 trees removed), ±8-acres of chamise chaparral, ±0.6-acres of introduced annual grassland, and ±0.34-acres of area identified as ruderal (i.e. previously disturbed areas). Resulting in the retention of ±4.8-acres of oak woodland, ±6.9-acres of chamise chaparral, and ±0.7-acres of introduced annual grassland. The winery development would remove ±0.1-acres of coast live oak woodland (resulting in 16 trees removed) and ±0.5-acres of chamise chaparral and introduced annual grassland.

Napa County General Plan Conservation Policy CON-24c provides for the preservation of oak woodland at a 2:1 ratio. As proposed the vineyard project and winery project would meet this 2:1 ratio; in that, approximately 4.8-acres of the 5.6-acres (or 86%) of coast live oak woodland, or approximately 284 (or 84%) of the approximate 340 tress on the subject parcel are proposed to be retained.

Chapter 18.108 of the Napa County Zoning Code (Conservation Regulations), in part, encourages the preservation of natural resources through project design that minimizes grading operations (cut, fill, earthmoving) and other such man-made effects in the natural terrain, preserves natural habitat, minimizes impacts on existing land forms, avoids steep slopes, and preserves existing vegetation. Additionally, General Plan Policy 19, in part, encourages the preservation of critical habitat areas and habitat connectivity through the continued implementation of the Conservation Regulations associated with vegetation retention: General Plan Policy 22, in part, encourages the protection and enhancement of natural habits which provide ecological purposes. The Biological Assessment and Addendum (Northwest Biosurveys 2009 and 2010) indicates that the oak woodland located in the central portion of the subject parcel may provide high quality core habitat. Considering the size of this oak woodland (±3.5-acres) and its connection to the larger woodlands and habitat areas to the northeast and east, the removal of ±0.2-acres (containing 8 trees) along the northern edge/fringe of this woodland habitat area could be a potentially significant impact to this area that may contain potential core habitat for at least some animal species within the vicinity of the vineyard project. Implementation of Mitigation Measure BR-2, which will require the replacement of the trees removed within this woodland at a 2:1 ratio (i.e. 16 replacement trees) within the connections/wildlife corridors leading from this on-site woodland habitat area to the woodlands located to the northeast and east (Figure 5) would enhance and effectively preserve the value of this habitat area and its connections to off-site habitats. The proposed vineyard development project, with the implementation of Mitigation Measure BR-2, would result in a less than significant impact to on-site habitat areas and result in consistency with applicable General Plan policies as identified above.

Mitigation Measure:

Measure BR-2: The applicant/owner shall implement the following measures to reduce impacts to the habitat/woodland area located in the central portion of the subject parcel by enhancing the connections to off-site habitats, through the following means:

a. Replace trees removed within the central woodland habitat area at a 2:1 ratio. Replacement trees shall be located in within the connections/wildlife corridors leading from this on-site woodland habitat to the woodlands located to the northeast and east. Replacement trees shall have a 100% survival rate. Prior to approval of #P09-00465-ECPA by the County the owner/applicant shall provide a re-planting plan in accordance with Measure BR-2a for incorporation into #P09-00465-ECPA.
b. In accordance with County Code Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement) trees inadvertently removed that are not within the boundary of the project and/or not identified for removal as part of #P09-00465-ECPA or #P10-00034-UP shall be replaced on-site at a ratio of 2:1. Replant locations will be within the connections/wildlife corridors as identified in Mitigation Measure BR-2a: any replaced tree shall have a 100% survival rate.

f. There are no Habitat Conservation Plans, Natural Community Conservation Plans or other similar plans applicable to the project site. There would be no impact.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines§15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Discussion:

a. No historic-period resources or historic-period buildings or structures where identified on the subject parcel (Archaeological Services Inc., 2009); therefore, there will be no impact on historical resources.

b. The closest known archeological sites occur over 0.3 to the northeast of the subject parcel. There have been no archeological resources identified within the project areas or subject parcel (Archaeological Services Inc., 2009: Napa County Geographic Information System Sensitivity Maps/layers: Arch Sensitive Areas, Archaeological Surveys, and Arch Sites); therefore, impacts to archaeological resources as a result of the proposed vineyard project or winery project would be less than significant. Furthermore, project approvals, if granted, would be subject to the following standard conditions, that would further avoid and/or reduce potential cultural resource impacts.

Cultural Resources – Standard Conditions of Approval: Discovery of historical, archaeological, paleontological resources, or human remains during construction, grading or other earth moving activities.

- In accordance with CEQA Subsection 15064.5(f), should any previously unknown historic or prehistoric resources, including but not limited to charcoal, obsidian or chert flakes, grinding bowls, shell fragments, bone, pockets of dark, friable solids, glass, metal, ceramics, wood or similar debris, be discovered during grading, trenching or other on-site excavation(s), earth work within 100-feet of these materials shall be stopped until a professional archaeologist certified by the Registry of Professional Archaeologists (RPA) has had an opportunity to evaluate the significance of the find and suggest appropriate mitigation(s), as determined necessary.
- If human remains are encountered the Napa County Coroner shall be informed to determine if an investigation of the cause of death is required and/or if the remains are of Native American origin. Pursuant to Public Resources Code Section 5097.98, if such remains are of Native American origin the nearest tribal relatives as determined by the State Native American Heritage Commission will be contacted to obtain recommendations for treating or removal of such remains, including grave goods, with appropriate dignity.
- In the event that a discovery of a breas, true, and/or trace fossils are discovered during ground disturbing activities, all work within 100 feet of the fined shall be temporarily halted of diverted until the discovery is examined by a qualified paleontologist. The paleontologist shall notify the appropriate agencies to determine procedures that should be followed before ground disturbing activities are allowed to resume at the location of the find.
- All persons working on-site shall be bound by contract and instructed in the field to adhere to these provisions and restrictions.

c. There are no unique geologic features on the project site[6]. Due to the rocky nature of the project site and because vineyard ripping depth is limited to 36-inches the probability of encountering paleontological resources on the project site is minimal. Regarding the wine cave, the project site is underlain by layered volcanic rock (Condor Earth Technologies Inc., 2009); therefore the probability of encountering paleontological resources during cave and winery construction is minimal. Impacts to geologic features and paleontological resources are anticipated to be less than significant as a result of the vineyard or winery development. Furthermore, approval of either project, if granted, would be subject to the standard condition above, which would further avoid and/or reduce potential paleontological resource impacts.

d. The Cultural Resource Reconnaissance survey did not locate any human remains on the subject parcel and does not anticipate the discovery of human remains due to the proposed vineyard and winery project. Therefore, impacts on human remains are anticipated to be less than significant. Furthermore, approval of either project, if granted, would be subject to the standard condition above, which would ensue that potential impacts on human remains will be less than significant.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☒	☐

Discussion:

a. The subject parcel and project sites could experience potentially strong ground shaking and other seismic related hazards based on the number of active faults in the San Francisco Bay region. The proposed vineyard project consists of earthmoving activities associated with the installation of erosion control measures for vineyard development and subsequent vineyard operation: it does not include the construction of new residences or other facilities (i.e. enclosed areas where people can congregate) that would be subject to seismic forces. Additionally, the vineyard project would not result in a substantial increase in the number of people to the site either on a temporary or permanent basis.

The winery would include the construction of wine caves and associated winery facilities (such as: work pads, mechanical room, rest rooms, process waste water system, storage, hospitality terrace) that would be subject to seismic forces and/or have the potential to increase in the number of people at the site on a permanent basis. It is anticipated that 3 full or part time employees would be necessary for normal winery operations and winery visitors would be limited to a maximum of 15 visitors per day and 50 per week: and up to 30 visitors for marketing events (nine total events) and up 100 visitors during the wine auction. Winery construction must comply with all the latest building standards and codes at the time of construction, including the California Building Code.

Considering the proposed vineyard and winery would not result in a substantial increase in the number of people to the site and winery construction would need to comply with current standards and codes, the potential for the proposed vineyard project and winery project to

[6] Site visit conducted by Napa County Staff October 2009.

expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving fault rupture, ground shaking, liquefaction, and landslides would be less than significant. Additional information supporting these conclusions is identified below:

i) The project area is not located on an active fault and is not within an "Earthquake Fault Hazard Rupture Zone" designated by the Alquist-Priolo Earthquake Zoning Act. The nearest recorded faults are the West Napa fault, located approximately 11 miles south of the project site, and the Green Valley fault, located approximately 20 miles southeast of the project site (Napa County GIS: Alquist-Priolo fault, West Napa Fault and Faults layers and Condor Earth Technologies Inc. 2009).
ii) The subject parcel is located in an area that is subject to low seismic ground shaking potential (http://gis.abag.ca.gov/website/Shaking_Prob/viewer.htm).
iii) The project site is not in an area considered to have a high potential for liquefaction (Napa County GIS Liquefaction Layer).
iv) Landslides has not been identified within the vicinity of subject parcel or within the project areas ((Napa County GIS: Landslide Layers and Condor Earth Technologies Inc. 2009).

b. Soils of the subject parcel and project sites consist primarily of Rock outcrop-Kidd Complex (Series #177): there is a small area in the northeast corner of the parcel mapped as Kidd loam (Series #155) and a small area in the southern end of the parcel mapped as Boomer gravelly loam (Series #109). The Rock outcrop-Kidd Complex exhibits rapid runoff and high erosion potential, Kidd loam exhibits medium runoff and moderate erosion potential, and Boomer gravelly loam exhibits rapid runoff and moderate erosion potential (USDA, Soil Survey of Napa County, 1978). Approximately 0.3 acres of the proposed vineyard development and none of the winery development would occur in the #155 or #109 soil series. Additionally vegetative makeup of the subject parcel and project sites have been disturbed by a recent fire: consequently, the natural vegetative cover is not in a consistently good condition.

Installation and implementation of the proposed vineyard (and associated erosion control plan) and winery development would involve earthmoving activities and vegetation removal within the proposed vineyard and winery areas. Pursuant to Section 18.108.070.L of the County Code (Erosion Hazard Areas) earthmoving activities cannot be preformed between October 15th to April 1st of the proceeding year; therefore, they would take place during the dry season when rain storms are less likely, resulting in negligible erosion and sedimentation during implementation of either of the proposed projects.

Based upon soil loss calculations prepared by Applied Civil Engineering using the Uniform Soil Loss Equation (USLE) the proposed conversion of ±9.7-acres of annual grassland, chaparral, and oak woodland to vineyard is anticipated to reduce soil loss as compared to existing conditions. The current average annual soil loss ranges from 1.9 to 10.3 tons/acre/year depending on soil type, slope length and gradient. The estimated long-term annual soil loss of the proposed vineyard, based on a cover crop with an anticipated density of 80%, ranges from 1.1 to 3.0 tons/acre/year depending on soil type, slope length and gradient (Table 3). Additionally, the annual application of straw mulch cover on all seeded and disturbed areas at 3,000 pounds per acre would offset any soil loss increases experienced during vineyard and cover crop establishment. Soil loss is not increased above existing conditions because implementation of the proposed erosion control plan includes a cover crop with an anticipated density of 80% and other features (out sloped terrace benches, energy dissipation area with associated 25 foot buffer strip, vegetated and rock covered vineyard avenues and access roads) that would reduce overland flow velocities and erosive power, and trap eroded soil on-site. Erosion control features such as straw mulch, outsloped terrace benches, sediment barriers (straw waddles and silt fencing), and water bars decrease slope length; thereby, reducing overland flow velocities and erosive power, in addition to allowing sediment to settle out of runoff. Rock energy dissipaters return any concentrated flow back to sheet flow. Furthermore, the energy dissipation area and associated 25 foot vegetated buffer strip located along the downslope periphery of proposed Vineyard Block 1, the buffer located along the downslope periphery of proposed Vineyard Block 5, and undisturbed areas (buffers) below the other vineyard blocks would provide additional opportunities for eroded soils to settle out and remain on the subject parcel.

Table 3: USLE Soil Loss Analysis – Vineyard project

Vineyard Block	Pre-Project Soil Loss (tons/acre/year)	Post Project Soil Loss (tons/acre/year)	Difference (approx. average)	Percent Change (approx. average)
1	10.3	2.7 to 2.9	-7.5	72.8%
2	1.9 to 2.2	1.9 to 2.2	0	0.0%
3	7.0 to 9.0	2.8 to 2.9	-5.15	64.4%
4	4.2 to 5.7	2.4 to 3.0	-2.25	45.5%
5	5.6 to 7.7	2.9	-3.75	56.4%
6	1.9 to 3.8	1.1 to 2.2	-1.2	42.1%

Source: Applied Civil Engineering 2009

Potential erosion and soil loss associated with the construction of the winery would be subject to the Napa County Stormwater Ordinance, which would require a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would control erosion and soil loss through the implementation of Best Management Practices (BMPs) during winery construction to ensure that development does not impact adjoining properties, drainages, and roadways. The SWPPP, which is reviewed by the Regional Water Quality Control Board San Francisco Bay Region 2 and the Napa County Department of Public Works would be required prior to commencement of construction of the winery. The applicant has also provided pre and post project USLE calculations for the winery, it is anticipated that there will be decrease in soil loss as

compared to existing conditions from 7.7 tons per acre down to 7.2 tons per acre within the winery development area (Applied Civil Engineering, January 29, 2010).

Therefore, potential impacts associated with soil erosion, soil loss, and associated sedimentation as a result of the proposed vineyard development or construction activities related to the winery would be less than significant.

c. As stated above in Sections VI.a. and VI.b above, the subject parcel and project areas are not in an area prone to landslides, ground failure or liquefaction. Therefore, the proposed vineyard development project (#P09-00465-ECPA) and winery project (#P10-00034-UP etal)are not anticipated to result in any significant impacts of on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse. Also see the discussion under section VIIa-b Hazards and Hazardous Materials.

d. Soils within the subject parcel and project area consists of Rock outcrop-Kidd Complex (Series #177), Kidd loam (Series #155), and Boomer gravelly loam (Series #109), which exhibit a low shrink-swell potential (USDA Soil Survey of Napa County, 1978). Therefore, impacts associated with expansive soils for the vineyard development or winery development projects are anticipated to be less than significant.

e. The proposed vineyard development project does not require septic tanks or wastewater disposal systems; therefore, there would be no impact with regard to soils supporting septic tanks or wastewater disposal systems associated with the vineyard development.

The Napa County Department of Environmental Management has been reviewed the winery application (#P10-00034-UP) and its associated Septic feasibility report and supplemental information. Pretreatment of winery waste water would have to meet the Department of Environmental Management's requirements for Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) prior to subsurface drip disposal. Environmental Management's review has indicated that pretreatment of wastewater would meet BOD and TSS requirements prior to subsurface drip disposal and has recommended approval (with conditions) based on the submitted wastewater feasibility report and proposed septic improvements; thereby, determining that soils on the property would be adequate to support proposed wastewater and septic improvements of the winery project. Also see Section VIII. Hydrology and Water Quality, below, for a discussion of proposed wastewater treatment improvements.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VII.	HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
	a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
	b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
	c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
	d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
	e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
	f) For a project within the vicinity of a private airstrip, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
	g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
	h) Expose people or structures to a significant risk of loss, injury or death involving wild-land fires, including where wild-lands are adjacent to urbanized areas or where residences are intermixed with wild-lands?	☐	☐	☒	☐

Discussion:

a-b. Installation of the proposed erosion control plan and subsequent vineyard operation and maintenance would require a variety of equipment and vehicles that would use fuel and other petroleum based products such as oil and transmission fluids, which are considered hazardous materials. Ongoing vineyard operations would also involve the transport and use of pesticides, herbicides, mildewcides, and fertilizers that are considered hazardous materials. Herbicide applicators must be licensed by the state, and the Napa County Agricultural Commissioner enforces application of pesticides and regulates applicators.

There are no agricultural chemical storage or cleaning facilities proposed as part of this project: agricultural chemicals will be stored off-site and the cleaning and washing of chemical application equipment would occur off-site. Any mixing of agricultural chemicals would occur at an existing pad located immediately southeast of Vineyard Block 6, which is approximately 100 feet from the nearest drainage feature. The owner/ applicant has indicated that staging areas and temporary storage of stockpiles areas would occur within the proposed vineyard blocks. According to #P09-00465-ECPA the use of pesticides and fertilizers are typically applied only 10-12 times per year, during the non-rainy months, generally between April 1st and September 1st of each year. A detailed listing of fertilizers and pesticides, in addition to application methods, and application amounts, numbers of annual applications and annual amounts of chemicals that are anticipated to be utilized for on-going vineyard maintenance and operation of the proposed vineyard is provided within Supplemental Project Information on file at the Planning Department. Application of chemical pesticides would be optimized as much as possible through the use of integrated pest management (IPM) techniques. IPM is an effective and environmentally sensitive approach to pest management that relies on a combination of reasonable application and use practices such as using current comprehensive information on the life cycles of pest and their interaction with the environment to determine application times and amounts. IPM is used to manage pest damage by the most economical means, and with the least possible hazard to people, property and the environment (EPA, 2005).

Generally, vineyard blocks are designed and sited to provide a minimum 50 foot vegetated buffer along the downslope periphery between vineyard block limits and property lines. Erosion Control Plan outfalls (level spreader and water bars) are also located to provide 50 foot vegetated buffers from property lines. Proposed vineyard blocks do not direct any drainage into the seasonally active drainage course that bisects the parcel. Additionally, there are no watercourses or aquatic resources within the project site or subject parcel; an unnamed tributary to Bell Creek is located approximately 0.15 miles to the west and Bell Creek is located approximately 1 mile to the west.

The National Resource Conservation Service (NRCS) recommends a minimum 50-foot wide vegetated buffer from water resources (streams and wetland) because under most conditions it is a generally adequate buffer width to provide enough vegetation to adequately entrap and filter chemicals, nutrients, and sediment thereby, facilitating degradation within buffer soils and vegetation (USDA 2000). The use of a staging area for chemical washing and refueling, storage, and maintenance of equipment would substantially reduce the risk of potentially hazardous materials reaching or affecting aquatic resources. The potential migration of agricultural chemicals reaching Bell Creek or its unnamed tributary that have been applied to the vineyard would be minimized by the substantial distances the project site is from these watercourses (also see Section IV - Biological Resources, subsection a and b).

Drainage features of the winery development are anticipated outfall at three locations (Figure 4). Two of the outfalls are located to provide a minimum 50 foot vegetated buffers from property lines. The third, a level spreader located along the western property line in the vicinity of Deer Park Road, provides 20 to 40 foot vegetative buffers from the western property line. The primary area that drainage/water is collected from is the woodland above the winery site that will remain in its natural condition as part of either the vineyard project or winery project. However the drainage feature connected to this outfall well also collect water from the parking lot of the winery. While this outfall would not provide the minimum recommended 50 foot vegetative buffer to filter chemicals from runoff, it would ultimately concentrate in one of the two storm drains that collects runoff along the eastern side of Deer Park Road, which convey water under Deer Park Road and outfall below Deer Park Road into the grassland/shrubland to the west; thereby, providing additional opportunities for runoff to be filtered. Therefore, it is not anticipated that water being discharged from winery drainage facilities will contain hazardous materials.

Additionally, a Hazardous Materials Management Plan will be required by the Department of Environmental Management prior to occupancy of the winery facility. Such plans provide information on the type and amount of hazardous materials stored on the project site. Therefore, operation of a winery is not anticipated to result in a significant risk of release of hazardous materials into the environment.

While the impacts associated with the use and transport of hazardous materials associated with either the vineyard project or winery project are anticipated to be less than significant because of the following: 1) the use of a staging areas for construction; 2) hazardous materials would not be stored or mixed on site as part of vineyard operation; 3) a project design that provides vegetated setbacks and buffers to entrap and filter chemicals, nutrients, and sediment from the nearest aquatic resources for either the vineyard project or winery project; 4) the substantial distances the subject parcel and project sites are from Bell Creek or its unnamed tributary; 5) the use of IPM techniques; 6) the regulation of pesticide and herbicide applicators; and 7) the implementation of a Hazardous Materials Management Plan. There is a potentially significant safety impact associated with construction activities of the vineyard project or the winery project due to the rocky and steep nature of the subject parcel, in conjunction with its proximity to Deer Park Road. Construction activities could result in rock slides/falls that could reach or cross Deer Park Road. Furthermore, the storage of rock outside the proposed development areas (i.e. vineyard blocks and winery site) generated during construction activities and/or unintentional movement of rock (i.e. rock slides/falls) outside development areas could result in potentially significant impacts to the environment due to disturbance/damage caused by rock storage or movement

occurring outside of the proposed development areas. Therefore, Mitigation Measure HHM-1, which will require the owner/applicant to submit a safety plan, prepared by a qualified professional, for vineyard development and winery development to prevent rock slides/falls during development activities from affecting areas outside proposed development areas, Deer Park Road, and public safety, as well as requiring rock to be stored within development areas, will need to be implemented to reduce these potential impacts. The proposed vineyard project and winery project with the implementation of Mitigation Measure HHM-1 would result in a less than significant impact to the environment and public safety due to upset and accident conditions that could occur during development activities of either project.

Mitigation Measure:

Measure HHM-1: The applicant/owner shall implement the following measures to reduce potential environmental and public safety impacts due to upset and accident conditions that could occur during development activities of either the vineyard project or the winery project:

a. Submit a safety plan, prepared by a qualified professional (such as an engineer, geologist, engineering geologist), for review and approval by the county prior to initiation of grading activities of either the vineyard project or winery project, which address potential public safety impacts due the grading, earthmoving activities and stockpiling of earthen materials. Safety measures include, but are not limited to, installation of temporary physical barriers and temporary storage of rock within in flatter portions and/or lower elevations of the development areas (such as Vineyard Blocks 2 and 6 and the western end of Block 1). Safety measures identified in the safety plan shall be installed in accordance with the approved safety plan and inspected by the county prior to initiation of grading activities of either the vineyard project or the winery project.
b. Rock generated during the construction of either the vineyard or winery shall be temporarily stored within development areas (i.e. vineyard blocks and winery site) until it can be utilized in the construction of erosion control measures and for road surfacing, or removed offsite subject to applicable permit(s).

c. The closest schools to the subject parcel are Foothill Elementary and Pacific Union College Elementary School located over 1.3 miles to the south and 1.7 miles to the east, respectively, of the project site (Napa County GIS: Schools layer) and there are no proposed schools within the vicinity of the subject parcel. Therefore, there would be no impact to existing or proposed schools due to either the implementation of vineyard #P09-00465-ECPA or the winery #P10-00034-UP.

d. The subject parcel is not included on a hazardous materials site (Napa County Baseline Data Report, Map 7-2, Version 1, Nov., 2005: Napa County GIS: Hazardous Facility layer); therefore, there is no impact.

e-f. The subject parcel is neither located within an airport land use plan area, nor within two miles of a public or private airstrip; therefore, there is no impact (Napa County GIS: Napa Airport Compatibility Zones layer).

g. Implementation of the proposed vineyard development project (#P09-00465-ECPA) would not impair implementation of or physically interfere with any adopted emergency response plan or emergency evacuation plan, in that, there would not be a substantial number of people working or residing at the project site (there would only be negligible numbers of workers and visitors to the parcel, most of which on a temporary or seasonal basis for erosion control plan and vineyard installation and subsequent vineyard operations) therefore, a less than significant impact is anticipated.

The winery project (#P10-00034-UP) has been designed to comply with emergency access and response requirements and has been reviewed by the Napa County departments responsible for emergency services. The County Fire Marshall's office has reviewed the use permit application and recommends approval with the implementation of specific conditions. Therefore, the winery project would not have a negative impact on emergency response planning.

h. The project is located in a wildland/semi-rural interface area; an area characterized by mixed vegetation types (woodland and shrub land) interspersed with agricultural, residential, and winery development. Due to this location, the subject parcel and surrounding parcels are subject to a heightened wildland fire risk during the dry season. The subject parcel is located within six miles of the City of St. Helena Fire Department and the Big Tree Road CalFire station.

Only minor structures (two 10,000 gallon water tanks) are proposed as part of the vineyard development project. The risk of fire in the vineyard is very low due to limited amount of fuel, combustibles, and ignition sources present. Vineyards are irrigated and cover crops are generally mowed in the spring (May through June); thereby, reducing the fuel loads within the vineyard. Therefore, the vineyard development project would not increase the exposure of people or structures to wild-land fires.

The Napa County Fire Marshal has reviewed the winery application and believes there is adequate fire service in the area. Additionally, the Fire Marshal has provided and recommended conditions of approval for the winery development project when the CDPC considers the winery use permit application.

Considering that the vineyard development project would not increase the exposure of people or structures to wild-land fires and that the winery project has been reviewed and recommended for approval (with conditions) by the Fire Marshal, in addition to the proximity of the

subject parcel and project site is to fire stations, risks associated with wildland fire of either the vineyard development or winery development are expected to be less than significant.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII.	HYDROLOGY AND WATER QUALITY. Would the project:				
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☒	☐	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f)	Otherwise substantially degrade water quality?	☐	☒	☐	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion:

a. The proposed vineyard development project does not require a water discharge permit from the Regional Water Quality Control Board because the proposed project does not include the discharge of waste: therefore, there would be no impact on waste discharge requirements. Implementation of #P09-00465-ECPA would control storm water runoff and reduce the potential for uncontrolled and unmanaged soil erosion caused by earthmoving activities associated with vineyard development. Erosion control measures included as part of #P09-00465-ECPA would reduce the impacts of erosion and sedimentation to Bell Creek and nearby aquatic resources. Additionally, the vegetated buffers, ranging from 20 feet to 100+ feet wide, located on along the downslope periphery of the proposed vineyard blocks will assist in trapping and filtering sediment not controlled by erosion control measures. The combination of vegetative and structural erosion control measures, in conjunction with vegetative buffers areas, would ensure that potential impacts to water quality of the site and to downstream receptors associated with the development and cultivation of ±9.7- acres of vineyard would be less than significant.

The proposed wastewater system for the winery would utilize an engineered septic system for domestic and process wastewater, as the wastewater feasibility study found sufficient acceptable soil to install an engineered septic system. The proposed domestic wastewater system would incorporate pretreatment and a 1,200 gallon tank while the process wastewater treatment system would incorporate pretreatment and a 1,500 gallon tank; both systems would feed into a shared 1,500 square foot subsurface pressure distribution system with a 100% reserve area. Wastewater tanks are proposed to be located within the mechanical and service areas of the winery, the subsurface disposal field would be located in the northeastern portion of the parcel (Figure 4) near the northern end of Vineyard Block 1. The Napa County Department of Environmental Management has preliminary reviewed the proposed domestic and process wastewater systems for the winery (#P10-00034-UP) and the associated Septic Feasibility Study/Report, supplemental information and Water System Feasibility Report. Because a catering/commercial kitchen is included in the winery the water supply and related components will have to comply with the

California Safe Drinking Water Act and Related Laws. Additionally, winery process waste water would have to meet the Department of Environmental Management's pretreatment requirements for Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) prior to subsurface drip disposal. Environmental Management's review has indicated that the proposed waste water system and septic improvements would meet the Departments requirements and that the water supply system would comply with the California Safe Drinking Water Act and Related Laws. The Department of Environmental Management has recommended approval (with conditions) of the wineries wastewater and water supply systems; therefore, the winery is not anticipated to violate any water quality standards or waste discharge requirements, resulting in a less than significant impact.

b. An existing on-site well would supply the water needs for the vineyard. As determined by the Phase 1 Water Availability Analysis for the subject parcel the allowable groundwater allotment for this parcel is 11.2 acre-feet per year (af/yr) based on the "fair-share" standards established by the Napa County Department of Public Works: which allow 0.5 acre feet per acre per year in mountain areas (0.5 af/yr times 22.61-acres equals 11.2 af/yr). The estimated groundwater demand/use for the proposed ±6.2-acres of planted vineyard (i.e. net vine acres) at a vine density of 2904 vines per acre, would be 1.34 af/yr per acre of vineyard during the vineyard establishment phase (totaling 8.3 af/yr for the entire vineyard), and approximately 1.11 af/yr per acre of vineyard long term (totaling 6.9 af/yr entire vineyard). The vineyard establishment phase is typically the first 1 to 3 years of vine growth: after the vineyard is established: it is anticipated that once the vines are established water demand/use for the vineyard would decrease as identified. The owner/applicant has also included water use of 0.5 acre feet the first year of vineyard development for irrigation of the cover crop so that it is adequately established prior to the onset of winter rains if necessary. Therefore, the total water demand for the first year of vineyard development is anticipated to be ±8.8 af/yr, decreasing to ±6.9 af/yr long term: after the vineyard and cover crop has been established.

Based on the analysis contained in the Phase 1 Water Availability Analysis water use on the parcel for the proposed vineyard development would be below the "fair-share" standards established by the Napa County Department of Public Works. Therefore, water use associated with the proposed vineyard development would have a less than significant impact on the groundwater supply.

The 10,000 gallon winery is anticipated to use 0.3 af/yr. A second well would be installed on-site to provide water for the winery: the owner/applicant has already obtained a well permit for this well (#E09-00458). This well would be located in the proximity of the northeast corner of Vineyard Block 5. Additionally, winery development would create a minimal amount of impervious surfaces (±1,200 sq.ft.) that could interfere with potential groundwater recharge. Based on the Phase I Analysis water use on the parcel for the winery development would be below the parcels "fair-share" standard of 11.2 af/ry. Therefore, water use associated with the propesed 10,000 gallon winery would have a less than significant impact on the groundwater supply.

Total water demand/use for the vineyard (#P09-0045-ECPA) and the 10,000 gallon winery (#P10-00034-UP) would be, at most, approximately 9.1 af/yr. Once the vineyard and cover crop are established long term water demand/use of the parcel in conjunction with the winery is anticipated to be ±7.2 af/yr. Based on the Phase 1 Water Availability Analysis, water use on the parcel for both the proposed vineyard development and the winery development would be below the "fair-share" standards established by the Napa County Department of Public Works. Therefore, long term water use associated with the parcel would have a less than significant impact on the groundwater supply.

c-d. Earthmoving activities associated with installation of the proposed erosion control plan has the potential to alter the natural pattern of surface runoff, which could lead to areas of concentrated runoff and/or increased erosion. The conversion of non-native grassland and shrub land to vineyard would alter the composition of the existing land cover and infiltration rates, which could also lead to increased erosion and runoff. The proposed vineyard development project does not include any alteration to the course of a stream or river or include the creation of impervious surfaces that would concentrate runoff. Please refer to Figure 3 for details related to the following discussion.

Proposed erosion control features of the vineyard development that have the potential to alter natural drainage patters include vineyard access roads, outsloped terrace benches, water bars, grass-lined cross slope diversion swales, and sub-drain lines. Out sloped terrace benches would be developed on contour within the proposed vineyard blocks to slow sheet flow allowing sediment to drop from the runoff and prevent concentration of runoff. The design of out sloped terrace benches would have a negligible effect on existing drainage patterns. It should also be noted that construction/installation of the terrace benches would utilize rock generated on-site from ground preparation. Water bars would be placed on perimeter vineyard avenues and are designed to channel runoff from vineyard avenues into graded swales to slow sheet flow. Water bars would feature rock protected outfalls to slow concentrated flows and return them back to sheet flow. Water bars are spaced according to the Universal Soil Loss Equation to maintain soil losses below the tolerable levels for the soil types found on the site. Water bar design and location would have a negligible effect on existing drainage patterns.

Installation of vineyard access roads between Vineyard Blocks 1 and 2, and 2 and 3 would generally be developed on grade and surfaced with crushed rock. To accommodate the development of the access road between Vineyard Blocks 1 and 2 the existing uphill slope at the eastern end of the access drive would need to be modified. However, this grade modification would maintain the existing sheet flow patter in this area. Additionally, the cut slope would be protected with erosion control blankets after seeding and not create a cut slope greater than 2:1. The rock surfacing of these access roads would slow sheet flow and allow for water infiltration. The vineyard access drive located between the existing driveway and Vineyard Block 5 has a greater potential to effect drainage patterns as it will be built up to allow for appropriate access. The uphill side of this access road will feature a diversion swale that would direct water to a drop inlet and associated

sub-drain line that outfalls on the downhill side of the access drive. The outfall would feature a Rock Energy Dissipater with check dam that is designed to attenuate and dissipate concentrated flow from subsurface drain line, thus reducing peak rates of runoff and providing an opportunity to retain sediment by allowing it to settle out. The Rock Energy Dissipater with check dam would be maintained throughout the rainy season and any excess sediment trapped in this feature would be removed during the summer months. Vineyard access road design and location would have a negligible effect on existing drainage patterns.

Cross slope diversion swales and the sub-drain lines have a greater potential to alter drainage patters in that they are designed to capture sheet flow before it reaches erosive velocities and divert it to other locations within the project area. Cross slope diversion swales would be designed with a gentle gradient (±3%) to prevent erosive velocities from occurring in the swale and allow water infiltration and sediment to settle out. Diversion swales would also be lined with erosion control blankets after seeding to further slow velocities and allow water infiltration and sediment to settle out. Cross slope diversion swales would outfall at either a rock protected energy dissipater or connect to subsurface drain lines via drop inlets. Subsurface drain line outfalls would consist of a Tee Water Spreader that would slow concentrated flows and return them back to sheet flow at the discharged point, rock slope protection underneath and around the Tee Spreader discharge point would assist in dissipating flows. Additionally, the 30 to 80 foot wide energy dissipation area with associated 25 foot vegetated filter strip located below Vineyard Block 1 would provide further opportunities to slow flows and allow water infiltration and sediment to settle out.

Additional erosion control measures and plan features that will assist in minimizing the potential for increased erosion and water runoff include: a no-till cover crop with a 80% density, silt fences and/or sediment wattles, the annual application of straw mulch cover on all seeded areas and disturbed slopes, and crushed rock surfaces vineyard access roads, and avenues. These features will slow and filter surface runoff water, thereby minimizing sediment, from entering nearby water resources (Bell Creek and unnamed tributary). Furthermore, the 20 to +50 foot buffers below proposed vineyard blocks will further assist in slowing runoff, increasing infiltration, and trapping sediment.

Erosion control features such as the no-till cover crop, sediment barriers (straw waddles and silt fencing), drainage swales, water bars, Tee-spreaders, and the Rock Energy Dissipater with check dam are designed and located to attenuate overland flow velocities; thereby, reducing peak rates of runoff to minimize potential on and off-site flooding, in addition to allowing sediment to settle out of runoff. Runoff calculations (TR 55) provided by Michael Muelrath, R.P.E vineyard engineer, indicate that peak runoff rates are not expected to change as compared to existing conditions as a result of the vineyard development project (Table 4).

TABLE 4 – HYDROLOGIC CALCULATIONS (TR-55) RESULTS – VINEYARD DEVELOPMENT

Summary of Existing and Proposed Runoff Conditions in Cubic Feet per Second								
Storm Event	2 year / 24 hour		10 year / 24 hour		50 year / 24 hour		100 year / 24 hour	
Drainage area	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
A	12.9	12.5	22.1	21.6	28.9	28.4	32.9	32.4
B	19.0	19.0	32.6	32.6	42.7	42.7	48.6	48.6
C	12.2	12.2	21.1	21.1	27.8	27.8	31.7	31.7

Source: Applied Civil Engineering

As discussed in Section VI.b (Geology and Soils) the project is anticipated to slightly decrease the rate of soil loss below existing conditions, thereby, reducing the potential for on or off-site siltation. Furthermore, pursuant to County Code Section 18.108.135 "Oversight and Operation" (Figure 7), and included as a standard condition, projects requiring an erosion control plan will be inspected by the county after the first major storm event of each winter until the project has been completed and stable for three years to ensure that the implemented erosion control plan is functioning properly. Based on the discussion above, the proposed vineyard development project is anticipated to have a less than significant impact with respect to alterations of the existing drainage patterns of the site or area that would result in considerable erosion or flooding on or off-site.

The winery project does not include any alteration to a stream, river or, watercourse. However, the alteration of the parcels landforms (i.e. the creation of cut and fill slopes so a development pad can be created) to accommodate the site improvements necessary for the winery (i.e. work areas, mechanical areas, access drive, and parking lot) could affect the natural drainage patters of the parcel and could lead to increased erosion and runoff. The primary drainage features of the winery include a diversion swale above the winery site and a diversion swale above the existing driveway that access the site. There would also be a new access drive from the existing drive to the parking area of winery that would need a diversion swale above it.

The diversion swale above the winery primarily collects runoff from the woodland above the winery site and the winery parking lot. This drainage feature would also include an underground detention facility, located under the parking lot. The outfall for this feature is a level spreader located along the western property line in the vicinity of Deer Park Road below the winery. While this drainage feature collects surface water, as described above, the outfall structure is sited such that it does not ultimately direct runoff to a different location within the parcel. In other words, sheet flow from the areas described would ultimately reachs the location of the outfall; thereby, maintaining drainage patters of the site. The detention facility for this drainage feature has been designed to accommodate the 2 year 24 hour storm event, per Napa County Post Construction Stormwater Management Requirements. However, General Plan Conservation Policy 50c requires projects to ensure peak runoff of the 2-, 20-, 50-, and 100-year storm events following development is not greater than pre- project conditions. Therefore, the drainage design of the winery and associated parking lot my result in a potentially significant impact to drainage patterns due

to increased peak runoff and inconsistency with applicable General Plan policies protecting surface water quality. Implementation of Mitigation Measure HWQ-1, which will require the detention facility for the winery and associated packing lot be designed to result in no increase in peak runoff as compared to existing (pre-project) conditions will effectively minimize potentially significant peak runoff impacts to a less than significant level and result in consistency with General Plan Policy 50c. The project engineer has indicated that designing a detention facility to accomplish this is feasible.

Mitigation Measure:

Measure HWQ-1: The applicant/owner shall implement the following measures in conjunction with the winery development project so that peak runoff of the 2-, 20-, 50-, and 100-year storm events following winery development is not greater than pre- project conditions:

a. Revise the design of the proposed detention facility for the winery to accommodate the specified storm events prior to issuance of building permits for the winery, should the winery use permit (P10-00034-UP) be approved. The revised detention facility shall be submitted to the Department of Public Works as part of the improvement plan review process for the winery.
b. Provide pre and post project hydrologic calculations for specified storm events along with the revised winery detention facility design specified in Mitigation Measure HWQ-1 for review by the Public Works Department of Public Works that demonstrate no net increase in peak runoff flows above existing (pre-project) conditions as a result of winery development.

Driveway improvements to the existing driveway from Deer Park Road to the new access drive that would lead to the winery parking area that are necessary to accommodate appropriate access would result in a drainage swale above this portion of the driveway. Currently there is a short rock wall feature above this section of the existing driveway that influences/alters drainage patterns. This rock wall currently directs some sheet flow down the driveway towards Deer Park Road while allowing some sheet flow to cross over the driveway and continue down slope. Proposed improvements to the existing driveway include the development of a drainage swale above the driveway: the swale will connect to a drop inlet that crosses under the driveway where it will outfall into a level spreader below the driveway. The level spreader will return concentrated flows back to sheet follow and allow for flow attenuation. While the swale above the driveway cuts off and concentrates sheet flows above the driveway the level spreader would return this concentrated flow back to sheet flow while providing some attenuation, which is more reminicient of the original drainage pattern of this area prior to the installation of the existing driveway rock wall. This drainage feature is not anticipated to increase peak flows above existing conditions as the level spreader is designed return concentrated flows back to sheet follow and allow for flow attenuation.

The new access drive that will connect the winery parking lot to the existing driveway will have a diversion swale above the drive. The swale would connect to a drop inlet and subdrain line that outfalls below the vineyard access that leads from the existing driveway to Vineyard Block 5. The outfall configuration includes a rock energy dissipater and rock check dam. The outfall is designed to return concentrated flow back to sheet flow as well as provide for flow attenuation. This subdrain line and outfall are also connected to the swale located above the vineyard access drive that leads to from the existing driveway to Vineyard Block 5. Due to the short distances of the diversions swales and subdrain line of this drainage feature, in conjunction with the rock energy dissipater and rock check dam, it is anticipated that this feature will not increase peak flows

Based on the discussion above, the proposed winery development project is anticipated to have a less than significant impact with respect to alterations of the existing drainage patterns of the site or area that would result in considerable erosion or flooding on or off-site.

e. The subject parcel is not located in an area of a planned stormwater drainage system. The subject parcel is not directly served by a stormwater drainage system; however, there are two catch basins and associated culverts that cross under Deer Park Road, which outfall in grasslands/shrublands on the western side of Deer Park Road. These culverts receive drainage from the subject parcel and project site. As discussed above in subsection c-d above, no increase in runoff is anticipated to occur in relation to existing conditions due to either the vineyard development project or the winery project. Therefore, neither project would not contribute a substantial amount of additional runoff to the existing stormwater drainage features along Deer Park Road, resulting in a less that significant impact.

f. The vineyard development project would not have a potentially significant adverse impact on water quality because erosion control planP09-00465-ECPA has been designed with site specific erosion control measures to keep runoff and sediment from leaving the project area. As discussed in Section VII – Hazard and Hazardous Materials, the project proposes the application of chemicals (i.e. fertilizers, herbicides, pesticides). Only Federal and/or California approved chemicals would be applied to the vineyard blocks in strict compliance with applicable state and federal law. Setbacks between 20 and +100 feet from property lines and associated vegetated buffers along the downslope periphery of vineyard blocks would facilitate increased water infiltration so that chemicals associated with vineyard operations can be trapped and degraded in buffer soil and vegetation. Limited applications occurring during the non-rainy season will also minimize the amounts of chemicals that could affect nearby water resources. Furthermore, because the vineyard development project and winery project are not anticipated to increase runoff in relation to existing conditions (with incorporation of Mitigation Measure HWQ-1 for the winery development), as discussed in Subsection c-d above, the proposed cover crop, setbacks, and buffers would be able to effectively trap and filter sediments minimizing their entry into nearby water resources. Furthermore, there will be additional opportunities for runoff to be filtered after it crosses under Deer Park Road via the two existing culverts and outfalls into the grassland/shrubland to the west (as described in subsection e above).

The winery development project has been designed with site specific runoff control measures to prevent uncontrolled runoff and associated sediment from leaving the project area. A site specific Storm Water Pollution Prevention Plan (SWPPP) will be developed to prevent pollutants associated with winery construction activities from contacting storm water and prevent sediments from moving off-site into any receiving waters. The SWPPP will include Best Management Practices (BMPs) that are consistent with County Code Section 18.108.080c, as well as, with Regional Water Quality Control Board guidance from the Storm Water Best Management Practice Handbooks for Construction and for New Development and Redevelopment, and the Erosion and Sediment Control Field Manual. Furthermore, the owner/applicant will be required comply with state and local wastewater requirements and meet the Napa County Department of Environmental Management standards for pretreatment of winery waste water including those for Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) prior to subsurface drip disposal prior to authorization of the use permit necessary for the winery development (see Mitigation Measure HWQ-1 in Section VI Hydrology and Water Quality). Therefore, as mitigated, the winery development project would not have a potentially significant adverse impact on water quality.

g-h. The project area is not located within a FEMA 100-year flood zone (Napa County GIS, FEMA Flood Zone layer); therefore, there would be no impacts within flood hazard areas for either the vineyard or winery development projects.

i. The subject parcel is not located within in a mapped floodplain or dam/levee failure inundation area (Napa County Sensitivity Maps, Flood Zones and Dam Levee Inundation layers); therefore, no impacts to people or structures due to flooding are anticipated.

j. The project site is not located in an area subject to seiche or tsunami (Napa County General Plan - Safety Element. pg. 10-20). It has been theorized that in coming years, higher global temperatures are expected to raise sea level by expanding ocean water, melting mountain glaciers and small ice caps, and causing portions of Greenland and the Antarctic ice sheets to melt. The Intergovernmental Panel on Climate Change estimates that the global average sea level will rise between 0.6 and 2 feet over the next century (IPCC, 2007). However, the subject parcel is located at approximately 1030 feet in elevation. The rocky hillsides on which the vineyard development and winery development projects are located would not expose people or improvements to a significant risk of inundation from tsunami, seiche, or mudflow; therefore, no impacts are anticipated.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IX.	LAND USE AND PLANNING. Would the project:				
	a) Physically divide an established community?	☐	☐	☐	☒
	b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☒	☐	☐
	c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion:

a. The proposed projects are located in an area predominated by agricultural uses. The development of vineyard and winery on the subject parcel would establish agricultural uses on the property. The closest established communities to the subject parcel are the City of St. Helena located over 1.5 miles to the west and Angwin located 2.5 miles to the east. Neither the proposed vineyard development nor the winery would divide an established community.

b. Surrounding land uses include agriculture, agricultural processing facilities (wineries), and rural residences. The subject parcel and adjacent parcels are zoned Agricultural Watershed (AW) and designated Agriculture, Watershed and Open Space (AWOS) in the Napa County General Plan Land Use Element. Under these designations, vineyards and associated improvements are permitted uses, wineries and uses accessory to wineries are subject to use permit approval.

The proposed vineyard development project meets all requirement of the AW zoning district and the County's ordinances governing vineyard development. The project as designed is consistent with the applicable provisions of the County's Conservation Regulations (Chapter 18.108). The establishment of vineyard would also be consistent with Napa County General Plan Agricultural Preservation and Land Use policies and Economic Development policy discussed below. However, as discussed in Section IV Biological Resources the proposed vineyard development may not be consistent with certain General Plan Conservation policies. Implementation of Mitigation Measure BR-2 would result in consistency with applicable General Plan Policies and a less than significant impact.

The winey project would be compliant with the development standards of the AW zoning district and other applicable provisions of the Napa County Zoning Ordinance related to winery development. The County has adopted the Winery Definition Ordinance (WDO) to protect agriculture and open space and to regulate winery development in a manner that avoids potential negative environmental effects.

Agricultural Preservation and Land Use Policy AG/LU 1 (Napa County General Plan 2008) states that the County shall, "preserve existing agricultural land uses and plan for agriculture and related activities as the primary land uses in Napa County." The parcels land use designation (AWOS), allows agriculture, processing of agricultural products, and single-family dwellings. Agricultural Preservation and Land Use Policy AG/LU-2 recognizes wineries and other agricultural processing facilities, and any use clearly accessory to those facilities, as agriculture. The proposed use of the property for the "fermenting and processing of grape juice into wine" (NCC §18.08.640) supports the economic viability of agriculture within the county consistent with General Plan Agricultural Preservation and Land Use Policy AG/LU-4 ("The County will reserve agricultural lands for agricultural use including lands used for grazing and watershed/ open space…") and General Plan Economic Development Policy E-1 ("The County's economic development will focus on ensuring the continued viability of agriculture…"). The development of a winery (and establishment of vineyard) on the subject parcel would allow for the continuation of agriculture as a predominant land use within the county. Therefore, resulting in a winery development with less than significant impacts related to applicable policies and regulations.

The General Plan includes two complimentary policies requiring that new wineries, "…be designed to convey their permanence and attractiveness." (General Plan Agricultural Preservation and Land Use Policy AG/LU-10 and General Plan Community Character Policy CC-2). As discussed in Section I.c Aesthetics the winery could not be approved unless the County finds it in conformance with the Viewshed Protection Program, which is expressly designed to protect the scenic quality of the County and to promote site planning and architectural design that are compatible with hillside terrain and which minimize visual impacts (N.C.C. §18.106.010). The Viewshed Protection Program insures that the winery development has addressed potentially significant visual impacts and not substantially degrade scenic views or visual quality pursuant CEQA. Therefore, review of the winery use permit by the CDPC for compliance with the Viewshed program would result in compliance with these general plan policies.

c. There are no habitat conservation plans or natural community conservation plans applicable to project site or adjacent parcels; therefore there would be no impacts.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
X.	MINERAL RESOURCES. Would the project:				
	a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
	b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion:

a-b. The subject parcel is not in an area of a known mineral resource of value to the region or state, or within a known mineral resource recovery site or in a mineral resource overlay zone (Napa County Baseline Data Report Version 1, Nov., 2005: Napa County GIS, General Plan layer). Proposed vineyard development and winery site improvements on the parcel would not result in the loss of availability of know mineral resources. Therefore, no impacts to mineral resources are anticipated.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XI.	NOISE. Would the project result in:				
	a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
	b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
	c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion:

a-c. The subject parcel and project sites are located in a semi-rural setting where a number of the surrounding parcels are planted with vineyards and/or developed with a winery. The nearest residences to the subject parcel are located approximately 0.1 miles to the south and southeast: the next closest residences are located over 0.2 miles to the south and east of the subject parcel. The nearest wineries are located approximately 0.2 miles to the west and 0.5 miles to the south of the subject parcel. The subject parcel is also located along the east side of Deer Park Road. The closest residential areas are the community of Angwin located approximately 1.5 miles to the northeast and the City of St. Helena located approximately 2.5 miles to the south. The closest schools are Foothill Elementary and Pacific Union College Elementary School located over 1.3 miles to the south and 1.7 miles to the east, respectively, of the project site (Napa County GIS: Schools layer). St. Helena Hospital is located ±1.1 miles to the south.

Activities associated with vineyard development, including the use of heavy equipment associated with earthmoving activities, could generate noise levels above existing conditions in the vicinity of the project site and subject parcel. However, increases in noise levels associated with vineyard development would be temporary and seasonal, not a long-term permanent increase. Potential blasting for vineyard development (of small isolated areas, if necessary, to break up rock formations near the ground surface) could result in the generation of groundborne vibration or groundbourne noise. The potential generation of groundborne vibration and noise associated with vineyard development would be temporary in nature and not a long-term permanent increase. Noise associated with subsequent on-going vineyard operations and maintenance would include a verity of vehicles and equipment, which could result in a temporary increase in ambient noise levels in the project vicinity. These noise sources would occur on a temporary and seasonal basis, thereby not resulting in a permanent increase in ambient noise levels in the project vicinity. Additionally, the entire vineyard is proposed to be hand farmed, which would further reduce anticipated noise levels from on-going vineyard operations.

Activities associated with winery development, including earthmoving activities and cave drilling/construction would result in a temporary increase in noise levels during construction activities. However, increases in noise levels associated with winery construction and development would be temporary in nature and not a long-term permanent increase. Cave construction could result in the generation of groundborne vibration or groundbourne noise: this activity would also be temporary in nature. Noise from winery operations is generally limited to processing activities, which are seasonal in nature. Additionally, a majority of the winery operations is proposed to occur with the caves; thereby, reducing noise being generated from winery operations. The proposed marketing plan could create additional noise from winery operations. The proposed marketing plan includes a number of annual events, one of which would include up to 100 attendees (i.e. the Napa Wine Auction); however, noise generated from marketing events would be temporary and seasonal in nature.

Construction activities associated with vineyard development and winery development would be subject to implementation of measures contained in the County Noise Ordinance (N.C.C. Chapter 8.16) for construction-related noise, such limiting construction activities (typically between 7 am and 7 pm on weekdays) and proper muffling of equipment to minimize the temporary increases in noise due to construction. Construction activities associated with vineyard and winery development are considered typical and reasonable for agricultural development and consistent with the County's 'Right to Farm' ordinance and General Plan Land Use Policy 15, in addition to being consistent with other agricultural operations in the immediate vicinity of the subject parcel.

Noise associated with on-going vineyard operation and maintenance and on-going winery operation is also considered normal and reasonable for agricultural activities and consistent with the County's Right to Farm ordinance General Plan Land Use Policy 15. Additionally, the winery would be subject to the Napa County Exterior Noise Ordinance, which sets the maximum permissible received sound level for a rural residence at 45 db between the hours of 10 p.m. and 7 a.m. While the 45 db limitation is strict (45 db is roughly equivalent to the sound generated by a quiet conversation), the area surrounding the subject property is developed with residential uses and agricultural uses (i.e. vineyards and wineries). Continuing enforcement of Napa County's Exterior Noise Ordinance by the Department of Environmental Management and the Napa County Sheriff, including the prohibition against outdoor amplified music, should ensure that marketing events and other winery activities do not create a significant noise impact.

Because construction/development of either the vineyard or winery; 1) would not result in long term permanent increases in noise: increases in noise levels would be temporary and seasonal, 2) would result in development activities that are considered typical and reasonable for implementation of agricultural uses that are consistent with the County's 'Right to Farm' ordinance; 3) would not substantially increase the noise levels over what currently exists in the project vicinity; and 4) be subject to the implementation of measures contained in the County Noise Ordinance for construction-related noise, such as muffling equipment to minimize the temporary increases in noise due to construction: the project would not result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; resulting in a less than a significant impact. Furthermore, Section 8.16.090.E of the County Code (Exemptions to noise regulations) exempts agricultural operations from compliance with the noise ordinance

With regard to groundbourn noise and vibration associated with construction and development of either the vineyard project or the winery project, these activities would not or result in a permanent increase in groundbourn noise or vibration: any groundbourn impacts would be short-term and temporary. Additionally construction/development activities that could generate groundbourn noise and vibration are considered typical and reasonable for establishing agricultural uses (i.e. vineyard and winery), which are consistent with the County's 'Right to Farm' ordinance. Therefore, groundbourn noise and vibration impacts would be less than significant.

Because noise associated with on-going operation and maintenance of either the vineyard development project or the winery development project; 1) would not result in either substantial temporary or permanent increases in ambient noise; 2) would not generate noise substantially over what currently exists in the project vicinity or that is inconsistent with surrounding uses; 3) would generate noise which is considered normal and reasonable for agricultural uses, which is consistent with the County's Right to Farm ordinance and policy; 4) that the subject parcel and project sites are located in an area of higher ambient noise levels (adjacent to Deer Park Road), and; 5) on-going winery operation would be subject to Exterior Noise Ordinance, impacts associated with increases in ambient noise levels of either the vineyard project of winery project are anticipated to be less than significant.

e-f. The subject parcel is neither located within an area covered by an airport land use plan, nor is it within two miles of a public, public-use, or private airport (the Virgil O Parrett air field is located approximately 2.1 miles to the northeast) . Therefore, no impacts are anticipated.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XII.	POPULATION AND HOUSING. Would the project:				
	a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
	b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
	c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion:

a. The proposed vineyard development project (#P09-00465-ECPA) involves earthmoving associated with the installation and maintenance of erosion control measures in connection with cultivation of vineyard; the winery project involves construction of a small winery (10,000 gallons) and associated infrastructure. Neither project involves the construction of new homes, new roads, or major infrastructure (other than that necessary for the winery use) that would directly or indirectly induce population growth. Construction and installation activities of the proposed vineyard project and of the winery project would generate employees and visitors to the parcel predominately on a temporary basis. Ongoing vineyard operation and maintenance activities would generate a limited number of employees to the parcel on a permanent and seasonal basis; however, it is anticipated that a local vineyard management company, using existing employees, would manage the vineyard (see Section XV, Transportation/Traffic for anticipated number of employees associated with ongoing vineyard operation).

According to the applicant the winery would request approval to allow 1 full time employee and 2 part time employees. The Association of Bay Area Government's *Projections 2003* figures indicate that the total population of Napa County is projected to increase some 23% by the year 2030 (*Napa County Baseline Data Report,* November 30, 2005). Additionally, the County's *Baseline Data Report* indicates that total housing units currently programmed in county and municipal housing elements exceed ABAG growth projections by approximately 15%. The new employee positions which are part of the winery project may lead to some population growth within Napa County. However, relative to the county's projected low to moderate growth rate and overall adequate programmed housing supply, this population growth does not rise to a level of environmental significance. Additionally, the winery project will be subject to the County's housing impact mitigation fee, which provides funding to offset and mitigate local housing needs.

Therefore, there are no direct or indirect impacts related to population growth associated with either the vineyard project or winery project.

b-c. There would be no impact because neither the vineyard project nor the winery project would displace any existing housing or people.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIII. PUBLIC SERVICES. Would the project result in:				
a) Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

Discussion:

a. The proposed vineyard development project does not include the construction of residential or commercial structures, and as discussed in Section XII. Population and Housing, the vineyard development project does not result in substantial population growth in the area; and therefore would not result in a substantial increase in the need or use of the listed services and amenities.

With regard to the winery project, fire protection measures are required as part of the winery development pursuant to Napa County Fire Marshall conditions: The Napa County Fire Marshal has reviewed the winery application and believes there is adequate fire service in the area. Additionally, the Fire Marshal has provided and recommended conditions of approval for the winery when the CDPC considers the winery use permit application. There will be no foreseeable impact to emergency response times as the subject parcel currently has public road access. School impact mitigation fees, which assist local school districts with capacity building measures, will be levied pursuant to building permit submittal. The proposed project will have little to no impact on public parks. County revenue resulting from any building permit fees, property tax increases, and taxes from the sale of wine will help meet the costs of providing public services to the property. The winery project would have a less than significant impact on listed public services.

Therefore, as detailed discussed above, the vineyard development project and the winery development project will have a less than significant impact on public services.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. RECREATION. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion:

a.-b. The proposed vineyard project and winery project do not include any recreational facilities. As discussed in Sections XII. Population and Housing and XIII. Public Services the vineyard project and winery project do not result in substantial population growth, which would increase the use of recreational facilities or require the construction or expansion of recreational facilities that would have an effect on the environment. Therefore, there would be no impact.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XV.	TRANSPORTATION/TRAFFIC. Would the project:				
a)	Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d)	Substantially increase hazards due to a design feature, (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e)	Result in inadequate emergency access?	☐	☐	☒	☐
f)	Result in inadequate parking capacity?	☐	☐	☒	☐
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

Discussion:

a-b. According to the owner/applicant, the proposed vineyard project is expected to generate approximately 12 to 32 trips per day during construction and installation, for anticipated work crews of between 6 and 16 employees. Vehicular equipment anticipated for project implementation includes a tractor/trailer, dump truck, D6 and/or D8 bulldozers, backhoe, excavator, pickup trucks, and water truck. After ECPA and vineyard installation, routine vineyard maintenance activities are anticipated to generate 3 to 4 employees per week resulting in 2 to 4 trips per week; weed control, frost control (via late pruning), and pruning activities that occur periodically throughout the year are anticipated to generate between 5 and 10 employees resulting in 2 to 4 trips per day (on days when these activities occur); and harvest is anticipated to generate between 6 and 10 employees resulting in approximately 4 trips per day, including grape haul trucks. Vehicular equipment anticipated for ongoing vineyard maintenance includes ATVs, 4 to 6 ton grape truck, and passenger cars and/or light trucks. Construction traffic would be intermittent throughout the non-peak hours generally arriving around 6-7 a.m. and departing around 2-3 p.m. Traffic associated with routine vineyard operation and maintenance, including harvest, would be intermittent during the non-peak hours, generally arriving around 6-7 a.m. and departing around 2-3 p.m. Harvest activities typically commence in between 3-5 a.m. and end between 2-3 p.m.

The winery development project is anticipated to generate between 4 and 15 trips per day during construction, for anticipated work crews of between 8 and 30 employees. Development of the wine cave is anticipated to generate approximately 27 trips per day, for anticipated work crews of between 8 and 12 employees. Vehicular equipment anticipated for winery development includes a tractor/trailer, dump trucks, D6 bulldozer, backhoe, excavator, concrete truck, pickup trucks, and water truck. After development of the winery project would result in 2 employee trips, 3 visitor trips during weekdays, 11 visitor trips during weekends, and approximately 1 to 2 weekly trips associated with deliveries (for a total of 15 daily trips on the busiest day of normal winery operation). Additionally, importation of grapes to the winery is anticipated during harvest: resulting in 1 additional per week for an approximate 6 week period during harvest. Annually, the busiest days would be associated with marking events: marketing events are anticipated to generate up to 29 trips per day: on days when marketing events take place no public visitation would occur. The annual wine auction event is anticipated to generate approximately 22 trips: visitors associated with the wine auction event would park off-site and utilize a shuttle bus service to and from the winery: no public visitation would occur on the day of the wine auction. On the day of the wine auction employee trips would increase to 5 trips: two additional employees (5 total employees) are anticipated to be necessary for the wine action event (these trips are included in the 22 daily trips anticipated for the auction as identified above). Once the vineyard is developed and the winery is operational anticipated traffic during harvest in conjunction normal winery operations is anticipated to be 19 trips per day. Also see the Focused Traffic Study and Supplemental Traffic Information attached as Figure 6 for additional traffic information.

Deer Park Road is a two lane thoroughfare that connects to Silverado Trial to the west and provides access to the communities of Deer Park (to the south of the subject parcel) and Angwin and Pope Valley (to the northeast of the subject parcel). Site distances from the existing access to the subject parcel along this portion of Deer Park Road are as follows: approximately 500 feet to the south and approximately 850 feet to the north. The existing Average Daily Traffic (ADT) volume for this portion of Deer Park Road (from Sanitarium Road north to Howell Mountain Road) is approximately 11,024 vehicles, peak hour traffic volume is approximately 1,102 vehicles. Daily capacity and peak hour traffic capacity for this portion of Deer Park Road is 15,600 vehicles and 1,480 vehicles respectively: currently this portion of Deer Park Road

operates at a Level of Service (LOS) D for daily and peak hour traffic (Napa County Baseline Data Report Version 1, Nov., 2005: Transportation and Circulation Technical Report, Fehr & Peers 2003).

Anticipated increases in traffic on Deer Park Road based on given project activities is shown in Table 5. As noted above traffic associated with vineyard development, operation, and harvest would generally occur during off-peak hours; however, they are assumed to occur during the peak hours to provide the most conservative assessment of potential impacts.

Table 5: Increases in Traffic Volumes

Project Activity	Increase: Peak Hour Volume	Increase: Daily Volume
Vineyard Development	2.9%	0.29%
Ongoing Vineyard Operation	0.03%	0.27%
Harvest	0.36%	0.04%
Winery Development	2.5%	0.25%
Winery operation (busiest day)	1.4%	0.14%
Winery Operation During Harvest	1.7%	0.17%
Winery Marketing Event	2.6%	0.26%

Considering traffic generated by either construction of the proposed vineyard development project or subsequent vineyard operation (including harvest); or traffic generated by either the winery development project or subsequent winery operations (including marketing events and vineyard operations), would introduce a negligible number of new trips to the subject parcel (a maximum of approximately 29 trips a day occurring during marketing events), and that many of these activities would occur on a temporary and/or seasonal basis that generally commence prior to and end before peak hours, traffic impacts of either the vineyard project or winery project are considered to be less than significant, in that, they would not substantially increase the traffic load or negatively affect the current LOS of Deer Park Road and/or surrounding roadways. Additionally, the Department of Public Works has reviewed the Focused Traffic Study and Supplemental Traffic Information and concurs with the assumptions used, the methods of analysis, and the conclusions reached: and that traffic impacts would be minimal. However the Department of Public Works has recommended that the winery use permit be conditioned not to add any greater level of activity than described above. Any conditions recommend by the Department of Public Works that are associated with the winery use permit (#P10-00034-UP) will be included as conditions of approval.

c. Neither the vineyard development project nor the winery development project would affect existing air traffic; therefore no impacts are anticipated on air traffic patterns and/or air traffic safety.

d-e. The proposed vineyard development project does not include roadway or driveway improvements and/or modifications or other design feature that would result in a hazardous condition. The driveway location provides at least 500 feet of unobstructed site distance of Deer Park Road in either direction. The existing access would continue to provide adequate emergency access to the subject parcel and the proposed vineyard project site. The installation of the vineyard is consistent with the allowed use of the property and other agricultural uses in the area. Therefore, there would be a less than significant impact of the vineyard project creating or substantially increasing hazards or resulting in inadequate emergency access.

As part of the winery development project improvements to the existing access drive are necessary: improvements extend from the access point up to the new connector leading to the proposed winery parking lot. The location of the existing access point from Deer Park Road will not change due to these improvements. These improvements are necessary in order for the access drive to comply with County's Road and Street Standards and emergency access standards. The owner/applicant proposes to widen the access point, widen the existing driveway to 20 feet, and provide a turnout to comply with these standards. As part of the winery use permit review process the Department of Public works will review these improvements: prior to action on the use permit the Department of Public Works will need to recommend approval of the proposed access drive improvements, which would include standard conditions (should the winery use permit be approved). Additionally, the Napa County Fire Marshall has reviewed the winery application and identified no significant impacts related to emergency vehicle access provided that standard conditions for the winery use permit are incorporated (should the winery use permit be approved). Therefore, the winery development project impacts related to traffic hazards and emergency access are expected to be less than significant.

f. Implementation the vineyard project would generate an anticipated parking demand of approximately 16 vehicles: after vineyard installation the largest demand for parking would be during harvest and is anticipated to be approximately 4 vehicles. Current county ordinances do not require formal parking for agricultural projects. Parking within proposed vineyard development areas and along proposed vineyard avenues would satisfy parking demands of vineyard installation and subsequent vineyard operations. Therefore no impact is anticipated.

The winery development project proposes nine parking spaces, one of which is a disabled-accessible space. With one full time and two part time winery employees and up to 15 visitors (by-appointment only) on the busiest day of normal winery operation, the 9 proposed parking spaces should be adequate. Standard conditions imposed on the winery use permit (should that permit be approved) disallowing parking in the right-of-way and requiring the shuttling of special event visitors from off-site when special marketing event visitation exceeds parking

capacity should result in adequate parking during marketing events including the 100 person wine auction event. Therefore, impacts associated with winery parking capacity are anticipated to be less than significant.

g. There are no adopted policies, plans, or programs supporting alternative transportation that apply to agricultural vineyard projects. Thus, the vineyard development project would have no impact in this area.

There are no aspects of the winery development project that would conflict with any adopted policies, plans or programs supporting alternative transportation; therefore there would be no impact.

		Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVI.	UTILITIES AND SERVICE SYSTEMS. Would the project:				
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b)	Require or result in the construction of a new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c)	Require or result in the construction of a new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e)	Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion:

a. The proposed vineyard development project would not generate wastewater; therefore, there would be no impact.

The winery project would not exceed wastewater treatment requirements as established by the County Department of environmental Management and the Regional Water Quality Control Board. Wastewater disposal will be accommodated on-site and in compliance with State and County regulations and will not result in a significant impact on the environment relative to wastewater discharge. Also see the discussions under Section VI. Geology and Soils and in subsection b below.

b. Implementation of the vineyard project would not result in the construction or expansion of water or wastewater treatment facilities because it would not generate wastewater and water supplied by an existing on-site well and proposed on-site well would provide irrigation water to the vineyard: resulting in no impact.

The winery would be served by a proposed domestic and process wastewater system. As discussed in Section VI.e Geology and Soils the Napa County Department of Environmental Management has reviewed the proposed wastewater system and its associated Septic feasibility report. Because a catering/commercial kitchen is included in the winery the water supply and related components will have to comply with the California Safe Drinking Water Act and Related Laws. Additionally, pretreatment of winery waste water would have to meet the Department of Environmental Managements for Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) prior to subsurface drip disposal. Environmental Management's review has indicated that the proposed waste water system and septic improvements would meet the Departments requirements and that the water supply system would comply with the California Safe Drinking Water Act and Related Laws. The Department of Environmental Management has recommended approval (with conditions) of the wineries wastewater and water supply systems; therefore, the winery is not anticipated to violate any water quality standards or waste discharge requirements. Furthermore, required wellhead setbacks and ongoing monitoring of the winery facility's wastewater systems by the Department of Environmental Management should reduce any impacts on water quality to less than significant levels; therefore, the new wastewater treatment and water supply systems will not result in significant environmental impacts.

c. The vineyard project and winery project involve site specific storm water drainage facilities (Figures 3 and 4) that have been designed to meet specific project-related storm water drainage needs. The effect of the vineyard development and winery development storm water drainage systems is discussed in Sections IV. Biology, VII. Hazards and Hazardous Materials, and VIII. Hydrology and Water Quality. As discussed in the referenced sections the environmental effects of the construction of either of these systems would be less than significant.

d. Discussion of water availability and water use for both the vineyard project and winery project is detailed in Section VIII.b. Hydrology and Water Quality. Both projects would be supplied by an existing on-site well and proposed on-site well. As discussed in Section VIII.b, the subject parcel's estimated water use for both the vineyard and winery project combined would be below the established threshold for this property. No new or expanded entitlements are necessary for either project. Therefore, either of the proposed projects, or the projects combined would have a sufficient water supply from existing entitlements and result in a less than significant impact.

e. The proposed vineyard project generates no wastewater that would require treatment; therefore, it will have no impact on wastewater treatment providers.

Wastewater from the winery development would be treated on-site and will not require a wastewater treatment provider. Therefore, it will have no impact on wastewater treatment providers.

f. Implementation of the proposed agricultural project would have no impact on existing landfills because the only significant solid waste generated by the project is cane generated during vine pruning. Materials generated during pruning or harvest will be disposed of on-site by spreading back into the vineyard, burning it, or a combination of the two. Solid waste generated during construction (i.e. broken irrigation pipe, fittings, trellis, end posts, etc.) would be negligible.

With regard to the winery development project it would be served by a landfill with sufficient capacity to meet the project's demands. No significant impact will occur from the disposal of solid waste generated by the winery.

g. The California Integrated Waste Management Board is responsible for guaranteeing the proper storage and transportation of solid waste, by providing standards for storage and transportation of solid waste containing toxic materials generated by urban and industrial users. The applicant/owner would be required to compliance with these regulations, as well as, all other applicable federal, state, and local statutes and regulations related to solid waste, to the extent that they apply to the proposed agricultural project (i.e. vineyard installation) and the winery, which will ensure that the project and winery would have a less than significant impact in this area.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Discussion:

a. As discussed in this Initial Study, the vineyard development project (#P09-00465-ECPA) with the incorporation of identified mitigation measures would not have the potential to degrade the quality of the environment. Sensitive or special status species that have been identified on the subject property will be preserved to the maximum extent feasible as part of the project (3 of the 22 Holly-leaf Ceanothus plants within property are proposed for removal): these plant species would also be protected from indirect impacts through the implementation of Mitigation Measure BR-1. Adequate wildlife corridors have been maintained through project design and will be enhanced through the implementation of Mitigation Measure BR-2. Potential impacts to unique areas of the subject parcel (i.e. the natural oak woodland habitat which may provide ecological purposes) would be reduced through the implementation of Mitigation Measure BR-2 (see discussions under Section IV, Biological Resources). The subject parcel does not contain important examples of California history or prehistory (Section V, Cultural

Resources). Therefore, with the incorporation of identified mitigation measures, the proposed vineyard development project would have a less than significant potential to degrade the quality of the environment.

Also, as discussed in this Initial Study the winery development project would have a less than significant impact on wildlife resources. No sensitive species or biologic areas have been identified within the winery development area will be converted or affected by this project. The Biological Assessment and addendum has not identified any rare, threatened, or special status plants or animals within the proposed winery development area. The winery project would not result in a significant loss of native trees or vegetation (Section IV. Biological Resources). The subject parcel does not contain important examples of California history or prehistory (Section V, Cultural Resources). Therefore, the proposed winery development project would have a less than significant potential to degrade the quality of the environment.

b. The subject parcel is located in the Bell Creek drainage (±772-acres) based on Napa County GIS, approximately 99-acres (12.8%) of the Bell Creek drainage area has been developed to vineyard. Of this total acreage approximately 37-acres of the drainage were in vineyard prior to 1993 and approximately 62-acres of vineyard were developed between 1993 and 2008. Currently, there is one other erosion control plan /vineyard project (other that this project) under review within the Bell Creek drainage (Tetz Vineyard #P08-00565-ECPA); proposed acreage of #P08-00565-ECPA approximately 7.7-acres. Considering existing, approved, and future potential vineyard development (±116-acres), approximately ±656 -acres (or 85%) of the total watershed would be expected to remain undeveloped. There are no other winery use permit applications pending in the Bell Creek Drainage.

As discussed in this Initial Study, project impacts associated with the vineyard development project (#P09-00465-ECPA) and/or the winery development project (#P10-00034-UP) have been analyzed to determine potential individual or cumulatively considerable impacts. All areas/categories of analysis were found to have less than significant impacts with the incorporation of identified mitigation measures and conditions. The potential contribution to air quality impacts associated with either project have been determined to be less than significant and less than cumulatively considerable in light of project components that are anticipated to minimize and/or offset long term impacts, including the implementation of the standard conditions of approval related to air quality impacts (Section III, Air Quality). As discussed in Section IV, Biological Resources, the proposed vineyard development project, with the incorporation of identified mitigation measures, would not result in the permanent removal of critical natural habitat or result in adverse impacts to biological resources. Also as discussed in Section III (Biological Resources) the proposed winery development project would not result in potentially significant impacts to biological resources. Impacts to cultural resources have not been identified with either project proposal and any unforeseen impacts to cultural resources would be less than cumulatively considerable through implementation of standard conditions of approval (Section V, Cultural Resources). As mentioned above, there is one other erosion control plan/vineyard under review within the Bell Creek Creek drainage, which would result in approximately 15% of the watershed being built out into vineyard since 1993: and there are no other pending winery use permit applications located in this watershed. Past, present and reasonably foreseeable future projects are not anticipated to significantly alter existing natural habitat within the watershed. The proposed vineyard development project would not result in increases in soil loss, sedimentation, or runoff, resulting in less than significant impacts related to soil loss or sediment production either on a project or cumulative basis. The proposed winery development project, with the incorporation of Mitigation Measure HWQ-1, would not result in increases in soil loss, sedimentation, or runoff, resulting in less than significant impacts related to soil loss or sediment production either on a project or cumulative basis (Section VIII, Hydrology/Water Quality). Water use on the parcel for the proposed vineyard development project and proposed winery development project would be below both the "fair-share" standards established by the Napa County Department of Public Works, therefore, water use associated with the subject parcel would have a less than significant impact on the groundwater supply and would not be cumulatively considerable (Section V VIII, Hydrology/Water Quality). The vineyard project and the winery project would generate noise levels that are considered normal and reasonable for agricultural activities and agricultural uses within the project vicinity. Additionally, these agricultural uses and associated noise are consistent with the County's "Right to Farm" policy. The potential contribution to noise impacts of either project is considered less than cumulatively considerable. As discussed in Section XV. Transportation/Traffic both the proposed vineyard project and winery project would increase traffic by a negligible amount, the effects of the relatively low vehicle trips (many of which would at off-peak hours) associated with either project is considered less than cumulative considerable.

Considering the characteristics of the vineyard development project and/or the winery development project (including their size and scale), the subject parcels characteristics, and the surrounding environment, the proposed vineyard project and winery project, as discussed throughout this initial study, are not anticipated to result in either project specific or cumulatively considerable negative impacts; therefore, impacts associated with either project that may be individually limited, but cumulatively considerable, would be less than significant.

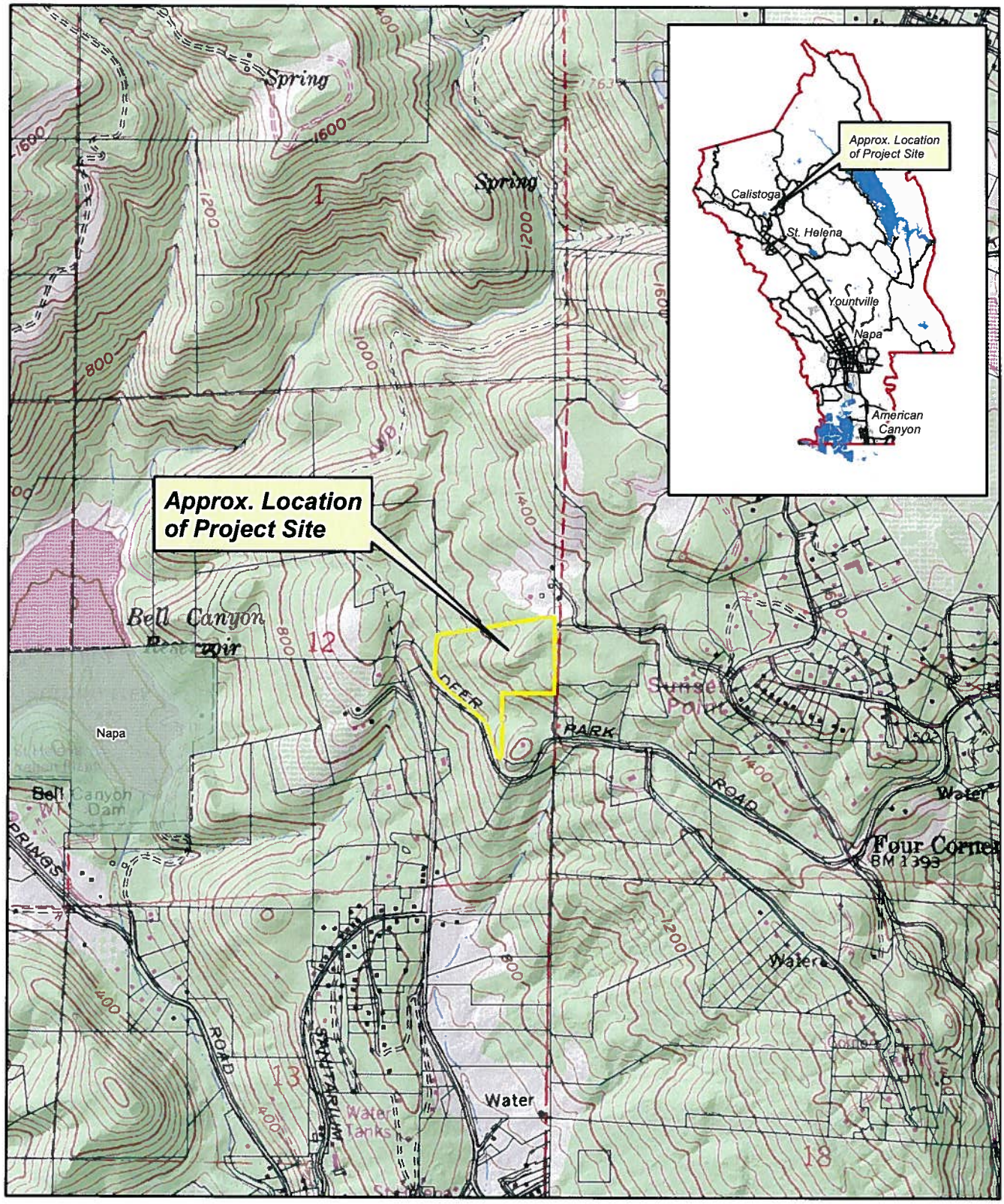
c. As discussed in this Initial Study the proposed site improvements and implementation of either the vineyard project (#P09-00465-ECPA) or the winery project (#P10-00034-UP) would not have any potentially significant negative effects on human beings with the incorporation of identified mitigation measures or conditions (see discussions under Section III, Air Quality; Section VII Hazards & Hazardous Materials; Section VIII, Hydrology/Water Quality; Section XI, Noise; Section XII, Population and Housing; and Section XV, Transportation and Traffic).

Both the vineyard project and winery project would be consistent with, and compatible with the surrounding land uses, the Napa County zoning ordinance and the Napa County General Plan (with incorporation of identified mitigation measures). The proposed projects, the use of the property, and reasonably foreseeable projects would be activities at a level of intensity considered normal and reasonable for a parcel with an Agricultural Watershed zoning district. Therefore, no significant negative environmental effects or hazardous conditions resulting in substantial adverse effects on human beings, whether directly or indirectly (as mitigated) would be caused by either project: less than significant impacts

are anticipated on human beings (as mitigated). Additionally, the project would not substantially increase the level of environmental affects on the environment over what currently exists in the project vicinity.

Exhibits:

Figure 1 – Site Location Map
Figure 2 – Project area air photo
Figure 3 – Erosion Control Plan #P09-00465-ECPA
Figure 4 – Winery Use Permit #P10-00034-UP project site plans and narrative
Figure 5 – Map of Plan Communities and Biological Resources (Northwest Biosurvey 2010)
Figure 6 – Focused Traffic Study and Supplemental Traffic Information
Figure 7 – Napa County Code Section 18.108.135 (Oversight and Operation)
Figure 8 – Project Revision Statement

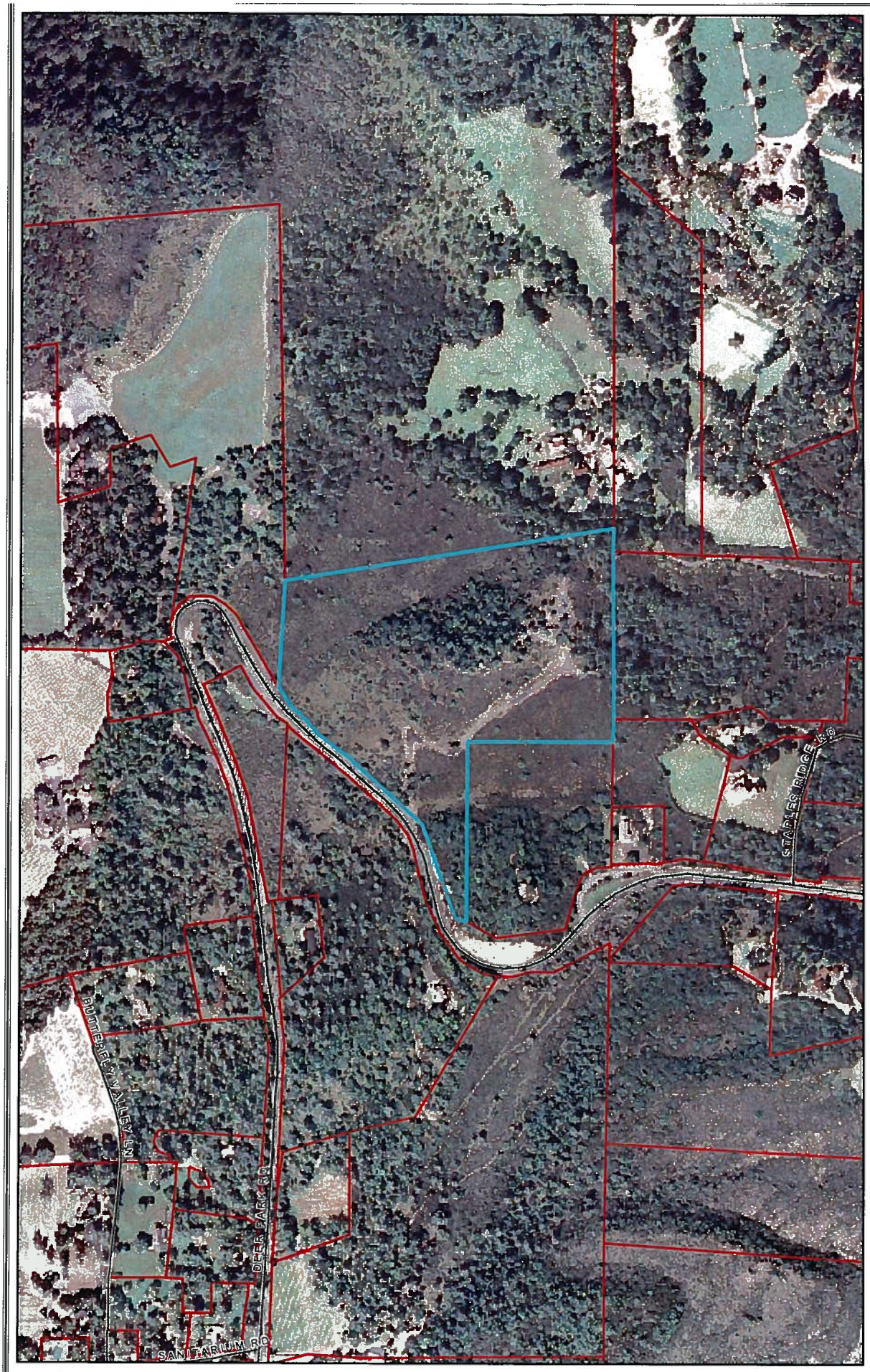


Source: Napa County Conservation Division - 12/2009

TFC Vineyard 22 LLC #P09-00465 Track I New Vineyard

Figure 1

Project Location



Legend

Roads

Parcels

Horizontal Datum: NAD 83,
CA State Plane Coordinates,
Zone II, feet

Disclaimer: This map was prepared for informational purpose only. No liability is assumed for the accuracy of the data delineated hereon.

0 237.5 475 950 1,425 1,900 Feet

County of Napa

Conservation, Development & Planning

Figure 2

Date: 05/21/2010

VINEYARD 22
VINEYARD DEVELOPMENT EROSION CONTROL PLAN

LOCATED AT:
1156 Deer Park Road
Angwin, CA 94508
NAPA COUNTY APN 021-420-015

PREPARED FOR:
TFC-Vineyard 22, LLC
c/o Thomas F. Carey, Manager
809 Coombs Street
Napa, CA 94559
Telephone: (707) 252-7122

PREPARED BY:

APPLIED CIVIL ENGINEERING INCORPORATED
2074 West Lincoln Avenue
Napa, California 94558
Telephone: (707) 320-4968
www.appliedcivil.com

Napa County
Resource Conservation Distri
Finds
Plan # P09-00465
Technically Adequate for Erosion and Sediment Control
by
Date 3/12/10

Job Number 09-102

RECEIVED
MAR 12 2010
NAPA CO. ... ON
DEVELOPMENT & PLANNING DEPT.

FIGURE 3

Erosion Control Plan Narrative

1. *The nature and purpose of the all/any land clearing, grading or earthmoving activity, the amount of cut & fill, the location of spoils storage and disposal areas, the total number of acres of grading involved including but not limited to roads, vineyards avenues, trenching for irrigation or pipes, reservoirs, wells, water tanks, septic systems, etc. Indicate the acres of land clearing, grading or earthmoving activity that will occur on 30% or greater slopes. (Note: slopes shall be calculated in whole percent)*

The purpose of the proposed land clearing, grading and earthmoving is to prepare the land for vineyard planting. Following is a list of planned land preparation activities:

- Removal of existing trees and brush
- Clearing and grubbing of existing understory vegetation
- Removal of major root systems from removed vegetation
- Ripping to a depth of 12 to 36 inches to prepare soil for planting and to incorporate soil amendments
- Blasting of small, isolated areas, if necessary, to break up rock formations near the ground surface
- Minor recontouring to promote sheet flow throughout the vineyard blocks and to install runoff and sediment control measures
- Mechanical and hand rock raking to remove loose rocks from the ground surface
- Discing and harrowing to prepare seedbed for vegetative erosion control measures
- Installation of cross slope diversions, terrace benches and storm drain piping system

Grading within the project area will be the minimum amount needed to promote sheet flow and install the proposed runoff and erosion control measures within the vineyard. The estimated quantity of grading is approximately 5,000 cubic yards of cut and 5,000 cubic yards of fill. An earthwork balance will be achieved onsite. Import and/or export of soil material is not planned however, soil amendments will be imported. It is anticipated that compost will be added at a rate of 5 tons per acre and lime will be added at 5 to 7 tons per acre.

All temporary rock, soil and soil amendment stockpiles and storage areas as well as rock processing and final disposal areas will be within the proposed vineyard development area. All rock will be used onsite within the development area. No long term stockpiles of rock or soil are anticipated.

The total disturbed area is 9.7± acres. The total disturbed area includes the area to be planted with vines, the area used for perimeter avenues and access roads to provide farming access to and around the vineyard as well as the area below vineyard block 1 that will be prepared and used as a water spreader and energy dissipation area. The total area to be planted with vines is 6.2± acres.

The vineyard will consist of six individual blocks. Each block will be hand farmed and will have a spacing of 3' (vine) x 5' (row) for an average vine density of 2,904 vines per acre.

A small pad will be graded along the west edge of vineyard block 2 to provide an area for water storage tanks. The water storage tanks will be sized based on the well yield and expected vineyard irrigation demands. We expect that a total of approximately 20,000 gallons of water will be stored for vineyard irrigation. The pad has also been sized to accommodate a 30,000 to 50,000 gallon water tank for fire protection for a future winery that will be developed under separate permit. The tanks will be above ground and will be of concrete or steel construction.

The details of the proposed vineyard development are shown on the Vineyard 22 Vineyard Development Erosion Control Plan prepared by Applied Civil Engineering Incorporated.

2. *Comprehensive description of existing site conditions, including topography, vegetation (including under-story and canopy cover), and soils. Provide extent of tree canopy covered and shrub and brush without a tree canopy covered areas in acres for each parcel. Identify and indicate the project boundaries in watersheds, including municipal watersheds, and in the water deficient area. The plan preparer is required to visit the site and the narrative must include the date, purpose, and persons making each site visit. The description shall verify the source or validity of the topographic map. Wide angle or panoramic photographs documenting existing site conditions shall be provided. A photo location map indicating the date of the site visit and by whom it was made shall accompany such documentation.*

Topography:

The subject parcel is located in the hills at the eastern edge of the Napa Valley near the City of St. Helena. The topography on the parcel is characterized by moderate to steep slopes with average slopes ranging from less than 5% to in excess of 30%. Average slopes within the proposed vineyard development area range from approximately 9% to 30%. Approximately 0.5 acres of land within the proposed vineyard development area has existing ground slopes exceeding 30% slope (up to 35% ±).

Vegetation:

The Calveg designations for the subject parcel are CQ (Lower Montane Chaparral) and NX (Interior Mixed Hardwood). Using aerial photographs of the subject parcel taken in 2007 we have estimated the following coverage statistics:

Developed Area (graded, paved, etc.)	0.6± acres
Tree Canopy Cover	5.3± acres
Brush / Grass Cover	16.7± acres
Total Parcel Size	22.6± acres

A majority of the proposed vineyard development will occur within areas with existing brush and / or grass cover. The vineyard layout has been developed to maintain as much tree canopy as possible. In total, approximately 0.7 acres of tree canopy cover will be converted to vineyard and approximately 8.7 acres of brush / grass cover will be converted to vineyard. The calculated tree canopy cover and brush / grass cover retention percentages are as follows:

Tree Canopy Retention	87%
Brush / Grass Retention	48%

Watershed:

Runoff on the parcel generally moves via overland sheet and shallow concentrated flow and collects in existing drainage infrastructure including roadside drainage swales and storm drain pipes along Deer Park Road. There is one open channel drainage course that traverses the central portion of the parcel near the northern boundary of proposed vineyard block 3. This open channel drainage course is not a blue-line stream nor is it a stream as defined in Napa County Code Section 18.108.030. Runoff from the parcel is tributary to Bell Creek and ultimately to the Napa River.

The parcel is not located in a municipal water supply watershed or a known groundwater deficient zone.

Site Visits & Photograph Documentation:

Mike Muelrath from Applied Civil Engineering Incorporated has visited the site several times since February 2009. The purpose of the site visits was to review existing site conditions and to verify the general validity of the topographic mapping for this project that was prepared by Terra Firma Surveys, Inc. During site visits on June 4, 2009 and September 8, 2009 several photographs were taken to document existing site conditions. The photographs are presented in the Photographic Documentation of Existing Site Conditions for the Vineyard 22 Vineyard Development Erosion Control Plan.

3. *All natural and man-made features on-site including but not limited to, streams, watercourses (drainage, channels, etc.), wetlands, riparian habitat, lakes, reservoirs, roads, water tanks, septic systems, reservoirs, ponds, etc. Indicate which ones may be affected by the proposed activity. For blue line and County-definitional streams indicate top, toe, and slope of bank, channel depth, and existing and proposed setback conditions. The entire length of blue line streams & 41 County-named streams on the parcel(s) shall be included in photo documentation (a recent aerial may be included). Provide the name and distance of the nearest blue line and/or County-definitional stream(s) to the project site.*

Existing manmade improvements on the subject parcel include a paved driveway from Deer Park Road to the knoll at the northeast quadrant of the property, a groundwater well and remnants from an abandoned building foundation that was never completed. The existing paved driveway will not be affected as part of the proposed vineyard development. The portion of the existing paved driveway adjacent to proposed vineyard block 3 will remain and will serve as the northern vineyard avenue for that block. The remnants of the abandoned building foundation will be removed and converted to vineyard (proposed vineyard block 6). The existing groundwater well will be used as a source of irrigation water to support the proposed vineyard development.

There are no blue line streams located on the parcel as shown on the USGS 7.5 Minute Quadrangle "St. Helena". The nearest blue line stream is an unnamed tributary of Bell Creek which is located approximately 400 feet west of the project site. The Napa River is located approximately 1.6 miles southwest of the project site.

The vineyard access road from the existing driveway to proposed vineyard block 5 will cross the open channel drainage course that traverses the central portion of the property. A culvert will be installed at this crossing to maintain existing drainage patterns.

4. Location and source of water for irrigation or other uses. Provide copies of all necessary permits.

All irrigation water will be provided by the existing groundwater well. Water storage tanks will be required to balance the available supply with the anticipated peak irrigation demand. The water tanks will be located along the western edge of proposed vineyard block 2. It is also planned that a new groundwater well will be developed near the northeastern corner of proposed vineyard block 5 to serve as a backup and supplemental water supply. A permit for this new well was recently obtained from Napa County Environmental Management Department (E09-00458).

The projected groundwater demand for the existing and proposed uses on the subject parcel is substantially less than the Phase I Water Availability threshold established by the Napa County Public Works Department. See attached Phase I Water Availability Analysis prepared by Applied Civil Engineering Incorporated for a detailed breakdown of existing and proposed water use projections.

5. *Soil types/soil series identified in the Soil Conservation Service (SCS) Napa County Soil Survey, or, if prepared, a site-specific soils report.*

The United States Department of Agriculture Soil Conservation Service Soils Map for Napa County shows a majority of the parcel, including the entire project area, mapped as Rock outcrop-Kidd complex, 50 to 75 percent slopes. A small area in the northeast corner of the property is mapped as Kidd loam, 15 to 30 percent slopes and a small area in the southern corner of the property is mapped as Boomer gravelly loam, 30 to 50 percent slopes.

6. *Critical areas of erosion and slope instability such as gullies, landslides, etc. within or potentially affecting the "development site" (i.e., the area disturbed by the project) or potentially affected by the work to be undertaken within the development site. In the case of landslides a report indicating the probable effects of the planned work on slope stability and erosion levels shall be prepared and submitted by a registered geologist.*

   According to the Napa County Geographic Information System there are not any mapped landslides within or adjacent to the proposed project area. Representatives from Applied Civil Engineering Incorporated have visited the site several times to review the project area and have not observed any signs of excessive erosion or landslide activity within or adjacent to the project area.

7. *Any erosion calculations prepared.*

   According to the United States Department of Agriculture Soil Conservation Service Soils Map for Napa County the soils found within the project area have a very high erosion hazard. Pre-project and post project estimates of soil loss rates from the project area due to erosion using the Universal Soil Loss Equation (USLE) are included as an attachment to this document.

   The USLE calculations predict a decrease in erosion rates due to implementation of the proposed vineyard development compared to existing conditions.

8. *Any/all proposed erosion control methods including, but not limited to:*

   a. *all drainage systems and facilities, walls, cribbing or other erosion protection devices to be constructed with, or as a part of the proposed work.*

      The following measures will be implemented to minimize the potential for erosion on the project site:

      - Storm Drain Pipe - A permanent storm drain pipe will be installed within vineyard block 1 to collect runoff that might otherwise concentrate and cause erosion within the development area. The storm drain pipe will be connected to a 1,600 +/- cubic foot detention structure that will be used to mitigate any decrease in the time of concentration due to installation of the storm drain pipe. The detention structure will outlet to a level spreader and energy dissipation area that will return the water to sheet flow conditions, slow down the runoff and allow infiltration. The detention structure will dewater between storm events through a small orifice connected to the level spreader.

- Sediment Barriers – Temporary silt fence and/or straw wattle type sediment barriers will be installed throughout the development area. The planned locations and installation details are provided on the erosion control plan. Additional sediment barriers will be installed as deemed necessary throughout the course of construction. The sediment barriers are intended to provide temporary sediment control during development and until the permanent cover crop is established.

- Cross Slope Diversions – Permanent cross slope diversion ditches will be installed in various locations throughout vineyard blocks 1, 3 and 4. The purpose of the cross slope diversions is to limit the effective slope length within the vineyard block. This minimizes the chance for the runoff regimes transitioning from sheet flow to concentrated flow which would lead to increased runoff velocities and an increased potential for excessive erosion. Furthermore, cross slope diversions will be constructed with a mild longitudinal slope to minimize the potential for erosion within the diversion, promote infiltration and mitigate any potential for increasing the rate at which runoff reaches receiving waters. Cross slope diversion locations and installation details are shown on the erosion control plan.

- Water Bars – Temporary water bars will be installed on all vineyard avenues to divert runoff off of the avenues and into energy dissipation areas outside of the vineyard block. Water bar locations and installation details are shown on the erosion control plan.

- Rolling Dips – Permanent rolling dips will be installed on vineyard avenues where cross slope diversions cross vineyard avenues. Rolling dips will be constructed to match the hydraulic capacity of the cross slope diversion and will be broad enough to allow farming equipment to traverse them. Rolling dip locations and installation details are shown on the erosion control plan.

- Erosion Control Blankets – Erosion control blankets will be installed over seed on all cut and fill slopes that are steeper than 4:1 (Horizontal : Vertical). Erosion control blankets will provide additional protection from rainfall impact on exposed soils. The erosion control blanket locations, specifications and installation details are provided on the erosion control plan.

- Terrace Benches – Terrace benches will be constructed at the lower edge of vineyard blocks 1 and 5 to reduce the finish ground slope and to serve as filtration and infiltration areas for runoff from the lower portion of each block. Furthermore, intrablock terraces will be installed within vineyard blocks 1 and 5 to reduce the finish ground slope and to limit the effective slope length, promote infiltration and thereby reduce erosion potential.

b. *Proposed vegetative erosion control measures including maintenance of plant material and slopes until a specified percentage of plant coverage is uniformly established.*

Establishing an effective vegetative cover crop will be the primary method of preventing erosion from the proposed vineyard development area. After the initial land preparation activities are complete a permanent cover crop will be planted throughout the cleared area, including the vegetated filter strip below vineyard block 1, to stabilize the hillside through the winter. A minimum coverage of 80% is required to maintain erosion rates at acceptable levels. The seed, fertilizer and mulch specifications are provided on the erosion control plan.

The permanent cover crop will be mowed in the spring and will be reseeded and mulched each fall as necessary to obtain the specified 80% coverage. Spring mowings will be timed to allow maturation of seeds and promote natural stand regeneration. Herbicide usage to control weeds will be limited to spot spraying of post emergent herbicide at individual vines, if necessary.

The cover crop should be irrigated prior to the onset of the rainy season during the first fall following development to establish a dense cover prior to the onset of heavy rains. This is especially important in erosion prone areas such as cross slope diversions.

c. *Proposed erosion control measures for vineyard avenues to accommodate farm or vineyard equipment and materials storage locations*

Vineyard avenues will be treated similar to the remainder of the vineyard block in that they will be protected with a permanent cover crop with densities maintained at 80% or more throughout the rainy season. Alternatively, the vineyard manager may decide to rock line vineyard avenues to limit their susceptibility to erosion and provide all weather access around the vineyard.

9. *Storm water stabilization measures to handle any increased peak rates of runoff from the development of the site that would result in flooding or channel degradation downstream. Include calculations of estimated increased runoff and/or an explanation of why an increase is/is not expected.*

Conversion of relatively undisturbed land to vineyard has the potential to increase the amount of runoff from a given area due to the change in land use. Furthermore, vineyard development can increase the rate at which runoff from the subject area reaches local drainage courses due to the installation of runoff control measures such as cross slope diversions and storm drain pipes that are typically installed to remove runoff from the vineyard area and thereby limit the potential for erosion.

Land preparation in the vineyard development area will break up existing shallow, rocky soils and the underlying bedrock and the soil will be thoroughly amended with organic matter. The resulting soil conditions will be more conducive to infiltration of storm water within the vineyard area compared to the existing rock and soil conditions. This will effectively offset any potential increase in runoff rates due to the proposed change in land use.

Furthermore, the erosion control measures planned for this project have been designed to balance the need for removing runoff from the vineyard area (to limit erosion potential) with minimizing the potential for reducing the amount of time it takes for runoff from the vineyard area to reach local drainage courses. More specifically:

- Cross slope diversions have been designed with gentle longitudinal slopes and a grass cover so that runoff that is collected in the diversion has an opportunity to infiltrate and is slowly transported out of the vineyard area.
- Cross slope diversions are designed to outlet into energy dissipation devices to further slow the runoff velocity and return the concentrated flow to a sheet flow or shallow concentrated flow regime before flowing overland and ultimately entering the local drainage courses.

- Terrace benches have been designed to slow runoff, dissipate energy and promote infiltration as the runoff moves through the vineyard development area.

- A storm drain detention system is proposed in vineyard block 1 to detain runoff that is captured in the storm drain pipe system and thereby mitigate any decrease in the time of concentration that may occur due to the installation of the storm drain pipe system.

Pre-project and post project USDA NRCS TR-55 hydrology calculations have been prepared to analyze the affect of the project on local hydrology. The TR-55 calculations predict no increase in runoff due to the proposed vineyard development. See the Hydrology Study for the Vineyard 22 Vineyard Development Erosion Control Plan for additional information.

10. An implementation schedule indicating:

a. *The proposed vegetation clearing, earth moving/grading, and construction/planting schedule.*
b. *The proposed schedule for winterizing the site (by October 15th of each year the permit is in effect except in a municipal watershed where it is by September 1st).*
c. *The proposed schedule for installation of all interim erosion and sediment control measures (including vegetative measures) and the state of completion of such devices/measures at the end of the grading season (i.e., on October 15th [except in 5 designated municipal watersheds where it is September 1st] of each year the permit will be in effect).*
d. *The proposed schedule for installation of any permanent erosion and sediment control devices required.*

Vineyard Development Schedule

April 2010	Begin tree removal, clearing and grubbing of existing vegetation. Complete land preparation for vineyard planting including: ripping, discing, minor recontouring and incorporation of soil amendments. Install irrigation and trellis systems. Plant rootstock.
Prior to October 1, 2010	Install storm drain system, cross slope diversions, rolling dips and rock energy dissipators
Prior to October 15, 2010	Winterize Site Complete all grading activities Place erosion control seed, fertilizer, straw mulch and erosion control blankets Install sediment barriers Install water bars
October 15, 2010 - April 2011	Irrigate cover crop until sustained by rainfall Inspect and maintain vegetative cover and erosion control devices at least once per week, prior to each anticipated rainfall event, at least once every 24 hours during extended rainfall events and following each rainfall event. Reseed and mulch any erosion damaged areas or areas with less than the specified cover percentage and repair or replace erosion control devices as necessary.
Spring 2011 – Fall 2011	Mow cover crop and perform fine site grading to repair any storm damaged areas.
October 15, 2011 - April 2012	Irrigate permanent cover crop until sustained by rainfall Inspect and maintain vegetative cover and erosion control devices at least once per week, prior to each anticipated rainfall event, at least once every 24 hours during extended rainfall events and following each rainfall event. Reseed and mulch any erosion damaged areas or areas with less than the specified cover percentage and repair or replace erosion control devices as necessary.
April 2012 and Beyond	See Annual Maintenance Schedule

Annual Maintenance Schedule

Prior to October 15	Winterize Site Place erosion control seed, fertilizer, straw mulch, erosion control blankets and sediment barriers as necessary to stabilize any erosion prone areas. Install water bars
October 15 - April 1	Inspect and maintain vegetative cover and erosion control devices at least once per week, prior to each anticipated rainfall event, at least once every 24 hours during extended rainfall events and following each rainfall event. Reseed and mulch any erosion damaged areas or areas with less than the specified percentage cover and repair replace erosion control devices as necessary.

11. The estimated cost of implementation of the erosion and sediment control measures.

Implementation of erosion and sediment control measures for this project is anticipated to cost $15,000 to $25,000 per acre. This estimate includes only the erosion and sediment control portions of the project, not the entire cost of land preparation, development and planting.

VINEYARD 22

VINEYARD DEVELOPMENT EROSION CONTROL PLAN

GENERAL NOTES:

1. THESE DRAWINGS WERE DEVELOPED EXCLUSIVELY FOR THIS PROJECT AND ARE NOT TO BE REPRODUCED OR USED FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION OF APPLIED CIVIL ENGINEERING INCORPORATED.
2. ALL MATERIALS AND WORKMANSHIP FOR THE WORK DESCRIBED ON THESE PLANS SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING STANDARDS:
   - A. CALIFORNIA BUILDING CODE
   - B. CALIFORNIA PLUMBING CODE
   - C. CALIFORNIA FIRE CODE
   - D. CALIFORNIA DEPARTMENT OF TRANSPORTATION
   - E. NATIONAL ELECTRIC CODE
   - F. NAPA COUNTY CODE

   CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR BEING FAMILIAR WITH ALL STANDARDS, CODES AND REGULATIONS APPLICABLE TO THIS PROJECT.
3. CONTRACTOR SHALL BE APPROPRIATELY LICENSED WITH THE STATE OF CALIFORNIA TO PERFORM THE WORK SHOWN ON THESE PLANS.
4. CONTRACTOR SHALL SUPPLY ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO CONSTRUCT THE IMPROVEMENTS ILLUSTRATED ON THESE PLANS.
5. CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL MATERIALS AND PRODUCTS TO BE USED FOR THE SITE IMPROVEMENTS TO APPLIED CIVIL ENGINEERING INCORPORATED FOR REVIEW AND APPROVAL.
6. THE IMPROVEMENTS SHOWN ON THESE PLANS REQUIRE INSPECTION BY REPRESENTATIVES FROM THE FOLLOWING AGENCIES:
   - A. NAPA COUNTY CONSERVATION, DEVELOPMENT AND PLANNING DEPARTMENT
   - B. NAPA COUNTY RESOURCE CONSERVATION DISTRICT

   CONTRACTOR IS RESPONSIBLE FOR SCHEDULING ALL INSPECTIONS.
7. CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING WITH APPLIED CIVIL ENGINEERING INCORPORATED, NAPA COUNTY AND NAPA COUNTY RESOURCE CONSERVATION DISTRICT PRIOR TO THE COMMENCEMENT OF CONSTRUCTION TO REVIEW THE PROJECT PLANS AND SPECIFICATIONS AND NAPA COUNTY REQUIREMENTS.
8. CONTRACTOR IS RESPONSIBLE FOR SECURING ALL CONSTRUCTION RELATED PERMITS FROM THE GOVERNING AGENCIES AND MAINTAINING A COPY OF THE PERMITS AND THE APPROVED PLANS ON THE JOB SITE AT ALL TIMES.
9. THE PROPERTY OWNER AND CONTRACTOR ARE RESPONSIBLE FOR OBTAINING ALL APPROPRIATE PERMITS FOR WORK WITHIN ANY RIPARIAN AREA PRIOR TO COMMENCING WORK IN THAT AREA.
10. CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE CONDITIONS AND THE SAFETY OF PROPERTY AND PEOPLE ON THE JOB SITE AT ALL TIMES. CONTRACTOR SHALL MAINTAIN THE JOB SITE IN A SAFE CONDITION, IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS, AT ALL TIMES, INCLUDING OUTSIDE OF NORMAL WORKING HOURS. CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
11. CONTRACTOR SHALL PROVIDE AND MAINTAIN BARRICADES TO PROVIDE FOR THE SAFETY OF THE GENERAL PUBLIC TO THE SATISFACTION OF NAPA COUNTY AND THE OWNER.
12. THESE PLANS ARE INTENDED TO PROVIDE HORIZONTAL AND VERTICAL CONTROL FOR THE PROPOSED VINEYARD DEVELOPMENT.
13. ALL DIMENSIONS SHOWN ON THESE PLANS SHOW MEASUREMENTS IN A HORIZONTAL PLANE.
14. ALL WRITTEN DIMENSIONS SUPERCEDE ANY SCALED DIMENSIONS. IF AN APPARENT DISCREPANCY IS IDENTIFIED CONTACT APPLIED CIVIL ENGINEERING INCORPORATED IMMEDIATELY FOR A WRITTEN CLARIFICATION.
15. IF ANY CONTRACTOR, SUBCONTRACTOR, OR SURVEYOR IDENTIFIES ANY OMISSIONS, DEFICIENCIES, CONFLICTS OR ERRORS IN THESE PLANS AND SPECIFICATIONS OR IF THERE IS ANY DOUBT AS TO THEIR MEANING OR INTENT, THEY SHALL CONTACT APPLIED CIVIL ENGINEERING INCORPORATED FOR A WRITTEN ADDENDUM OR CLARIFICATION. CONTRACTOR IS NOT ELIGIBLE FOR ADDITIONAL COMPENSATION IF THEY FAIL TO DO SO BEFORE PROVIDING A PROPOSAL.
16. CONTRACTOR IS TO PROTECT ALL EXISTING SITE IMPROVEMENTS, UTILITIES, BUILDINGS AND NATURAL FEATURES FROM DAMAGE THROUGHOUT THE DURATION OF CONSTRUCTION. ANY DAMAGE CAUSED BY CONTRACTOR SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.

SURVEY AND STAKING NOTES:

1. FADED BACKGROUND REPRESENTS EXISTING TOPOGRAPHIC FEATURES. TOPOGRAPHIC INFORMATION WAS TAKEN FROM THE "TOPOGRAPHIC MAP OF THE LANDS OF DAL MOLIN, TRUST." PREPARED BY TERRA FIRMA SURVEYS, INC., DATED MARCH 2009. APPLIED CIVIL ENGINEERING INCORPORATED ASSUMES NO LIABILITY REGARDING THE ACCURACY OR COMPLETENESS OF THE TOPOGRAPHIC INFORMATION.
2. CONTOUR INTERVAL: TWO (2) FEET, HIGHLIGHTED EVERY TEN (10) FEET
3. BENCHMARK: NAVD 88
4. THE PROPERTY LINES SHOWN ON THESE PLANS DO NOT REPRESENT A BOUNDARY SURVEY. THEY ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.
5. CONTRACTOR SHALL PRESERVE ALL EXISTING MONUMENTS THROUGHOUT THE DURATION OF CONSTRUCTION OR HAVE THEM REPLACED AT THEIR OWN EXPENSE.
6. ALL CONSTRUCTION STAKING SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR.

GRADING NOTES:

1. ALL EARTHWORK IS TO CONFORM TO THE REQUIREMENTS OF THE CALIFORNIA BUILDING CODE, NAPA COUNTY CONSERVATION REGULATIONS AND NAPA COUNTY PUBLIC WORKS DEPARTMENT STANDARDS.
2. IN THE ABSENCE OF A GEOTECHNICAL REPORT ALL EARTHEN CUT AND FILL SLOPES SHALL BE 2:1 (HORIZONTAL TO VERTICAL) OR FLATTER EXCEPT AS SPECIFICALLY NOTED ON THE PLANS.
3. ALL DEBRIS GENERATED DURING DEMOLITION, SITE STRIPPING AND GRADING ACTIVITIES IS TO BE DISPOSED OF PROPERLY OFFSITE BY THE CONTRACTOR.
4. CONTRACTOR SHALL CONDUCT ALL GRADING OPERATIONS IN A MANNER THAT PREVENTS WIND BLOWN DIRT AND DUST AND RELATED DAMAGE TO NEIGHBORING PROPERTIES.
5. CONTRACTOR SHALL CONFORM TO EXISTING IMPROVEMENTS AND TOPOGRAPHY WITH A SMOOTH TRANSITION TO AVOID ABRUPT CHANGES IN GRADE, LOW SPOTS OR OTHER HAZARDOUS CONDITIONS.

UTILITY NOTES:

1. THE EXISTING UTILITY LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATIONAL PURPOSES ONLY. THEY ARE BASED ON INFORMATION PROVIDED BY THE PROPERTY OWNER, THE SURVEYOR AND THE RESPECTIVE UTILITY COMPANIES. APPLIED CIVIL ENGINEERING INCORPORATED ASSUMES NO LIABILITY REGARDING THE ACCURACY OR THE COMPLETENESS OF THEIR LOCATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING UTILITY LOCATIONS PRIOR TO ORDERING MATERIALS OR BEGINNING CONSTRUCTION. IF A DISCREPANCY BETWEEN THE PLANNED AND ACTUAL HORIZONTAL OR VERTICAL LOCATION OF AN EXISTING UTILITY EXISTS, CONTACT APPLIED CIVIL ENGINEERING INCORPORATED FOR AN ALTERNATE DESIGN.
3. CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITY COMPANIES TWO WORKING DAYS PRIOR TO THE START OF CONSTRUCTION TO MARK THE LOCATION OF EXISTING UTILITY LINES. CALL UNDERGROUND SERVICE ALERT (USA) AT (800) 227-2600.
4. EXISTING UTILITIES ARE TO REMAIN IN SERVICE AT ALL TIMES. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES PER THE REQUIREMENTS OF THE UTILITY OWNER.
5. CONTRACTOR SHALL COORDINATE ANY REQUIRED UTILITY RELOCATIONS WITH THE UTILITY OWNER.

ENVIRONMENTAL COMMITMENTS:

IN ORDER TO MINIMIZE THE IMPACTS TO THE IMMEDIATE AND SURROUNDING ENVIRONMENT, THE PROJECT PROPOSES THE FOLLOWING MEASURES:

ARCHEOLOGY:

1. ALL WORK IS TO CEASE IF ARCHEOLOGICAL, CULTURAL, OR HISTORICAL RESOURCES ARE DISCOVERED DURING CONSTRUCTION. IF SUCH RESOURCES ARE DISCOVERED, THE NAPA COUNTY CONSERVATION, DEVELOPMENT AND PLANNING DEPARTMENT SHALL BE CONTACTED AT (707) 253-4417 AND AN APPROPRIATE COURSE OF ACTION WILL BE DEVELOPED.

AIR QUALITY:

2. ALL TREES AND BRUSH CLEARED FROM THE DEVELOPMENT AREA WILL BE CHIPPED OR USED OR DISPOSED OF IN ANOTHER APPROVED MANNER TO AVOID BURNING IN LARGE PILES.
3. ALL EXPOSED SOIL STOCKPILES SHALL BE COVERED.
4. DISTURBED AREAS WILL BE SEEDED AND MULCHED AS SOON AS POSSIBLE.
5. ALL TRUCKS HAULING SOIL, SAND AND OTHER LOOSE MATERIALS SHALL BE COVERED OR ALL TRUCKS SHALL MAINTAIN AT LEAST TWO FEET OF FREEBOARD (I.E., THE MINIMUM REQUIRED SPACE BETWEEN THE TOP OF THE LOAD AND THE TOP OF THE TRAILER) IN ACCORDANCE WITH SECTION 23114 OF THE CALIFORNIA VEHICLE CODE DURING TRANSIT TO AND FROM THE SITE.
6. THE DRIVEWAY AND SITE ACCESS SHALL BE SWEPT DAILY (PREFERABLY WITH WATER SWEEPERS), IF VISIBLE SOIL MATERIAL IS CARRIED ONTO THE DRIVEWAY AND STREET.
7. TRAFFIC ON UNPAVED AREAS AND ROADS SHALL BE LIMITED TO 15 MILES PER HOUR (MPH).
8. GRADING AND EARTHMOVING ACTIVITIES SHALL BE SUSPENDED WHEN WINDS EXCEED 25 MPH.
9. EXTENDED PERIODS OF CONSTRUCTION EQUIPMENT ENGINE IDLING WILL BE AVOIDED TO THE MAXIMUM EXTENT FEASIBLE.
10. CONSTRUCTION EQUIPMENT WILL BE MAINTAINED IN ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS.

NOISE:

11. ROCK BLASTING, IF REQUIRED WILL BE PERFORMED IN ISOLATED AREAS AND WILL BE SCHEDULED TO OCCUR BETWEEN THE HOURS OF 10:00 A.M. AND 2:00 P.M.

EROSION CONTROL NOTES:

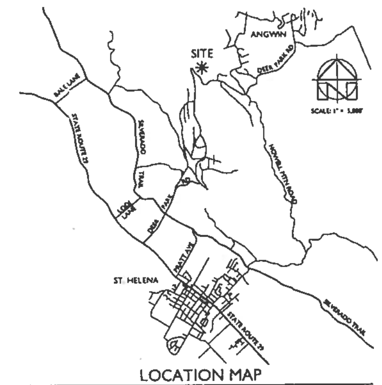
1. ALL DISTURBED AREAS MUST BE WINTERIZED BY OCTOBER 15TH OF EACH YEAR THAT THE PROJECT IS UNDER CONSTRUCTION.
2. A REQUEST TO ALLOW GRADING TO EXTEND BEYOND OCTOBER 15TH MAY BE GRANTED BY THE NAPA COUNTY CONSERVATION, DEVELOPMENT AND PLANNING DEPARTMENT IF A MAJORITY OF THE GRADING HAS BEEN COMPLETED AND THERE COULD BE A DETRIMENTAL EFFECT ON THE ENVIRONMENT IF THE REMAINING GRADING REMAINS INCOMPLETE. A REQUEST TO ALLOW GRADING TO EXTEND BEYOND OCTOBER 15TH MUST BE SUBMITTED IN WRITING TO THE NAPA COUNTY CONSERVATION, DEVELOPMENT AND PLANNING DEPARTMENT NO LATER THAN OCTOBER 1ST. GRADING BEYOND THE WINTERIZATION DEADLINE WILL NOT BE ALLOWED PRIOR TO APPROVAL BY THE NAPA COUNTY CONSERVATION DEVELOPMENT AND PLANNING DEPARTMENT.
3. ALL PERMANENT DRAINAGE FACILITIES AND SEDIMENT RETENTION STRUCTURES MUST BE INSTALLED BY OCTOBER 1ST.
4. ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES (WATER BARS, SILT FENCE & STRAW WATTLES) MUST BE INSTALLED BY OCTOBER 15TH.
5. ALL EROSION CONTROL MEASURES MUST BE INSPECTED AND MAINTAINED BY THE CONTRACTOR THROUGHOUT THE RAINY SEASON (OCTOBER 15TH THROUGH APRIL 1ST). INSPECTIONS MUST BE PERFORMED AT LEAST ONCE PER WEEK DURING EXTENDED DRY PERIODS, IMMEDIATELY BEFORE ANTICIPATED RAIN EVENTS, ONCE EVERY 24 HOURS DURING EXTENDED RAIN EVENTS AND IMMEDIATELY FOLLOWING EACH RAIN EVENT.
6. ALL DISTURBED AREAS ARE TO BE STABILIZED BY PLANTING OF AN EROSION CONTROL COVER CROP. PRIOR TO APPLYING THE EROSION CONTROL SEED BLEND, THE SEED BED SHOULD BE PREPARED BY UNIFORMLY SCARIFYING THE GROUND SURFACE TO A DEPTH OF TWO TO FOUR INCHES AND CONDITIONING TO BREAK UP LARGE PEDS.
7. THE COVER CROP SEED BLEND SHOULD BE BROADCAST OR DRILLED AFTER THE SEED BED HAS BEEN PREPARED.
8. THE COVER CROP SEED MIX FOR THE VINEYARD AND VEGETATED FILTER STRIP AREA SHOULD BE THE "VINTNER'S BLEND" AVAILABLE FROM NAPA VALLEY AG SUPPLY APPLIED AT A MINIMUM RATE OF 75 POUNDS PER ACRE:

CREEPING RED FESCUE	40%
CHEWING FESCUE	25%
DWARF PERENNIAL RYE	25%
ROSE CLOVER	8%
NEW ZEALAND WHITE CLOVER	2%

9. AN ALTERNATE SEED MIX MAY BE USED BY THE VINEYARD MANAGER PROVIDED THAT ATTENTION IS GIVEN TO CHOOSING A COVER CROP THAT IS SUITABLE FOR THE SITE SOIL AND TOPOGRAPHIC CONDITIONS. ANY ALTERNATE SEED MIX MUST BE APPROVED BY THE ENGINEER AND THE NAPA COUNTY RESOURCE CONSERVATION DISTRICT PRIOR TO USE.
10. ALL SEEDED AREAS ARE TO BE FERTILIZED TO PROMOTE SUCCESSFUL ESTABLISHMENT OF THE COVER CROP. THE RECOMMENDED FERTILIZER BASED ON SOIL TESTING PREPARED BY CROP CARE IS AMMONIUM PHOSPHATE (16-20-0) APPLIED AT A RATE OF 250 POUNDS PER ACRE.
11. ADDITIONAL SOIL AMENDMENTS RECOMMENDED BASED ON SOIL TESTING PREPARED BY CROP CARE INCLUDE COMPOSTED ORGANIC MATTER AT A RATE OF 5 TONS PER ACRE AND A 50/50 BLEND OF CALCITIC AND DOLOMITIC LIME AT A RATE OF 5 TO 7 TONS PER ACRE. THE AMENDMENTS SHOULD BE INCORPORATED DURING THE LAND PREPARATION PROCESS TO INCREASE SOIL NUTRIENT CONTENT AND AVAILABILITY, AND TO IMPROVE SOIL STRUCTURE AND WATER HOLDING CAPACITY.
12. AFTER THE SEED AND FERTILIZER HAVE BEEN PLACED THE SEEDED AREA SHOULD BE RAKED, DRAGGED OR HARROWED TO ENSURE THAT SEEDS ARE PROPERLY BEDDED.
13. ALL DISTURBED AREAS ARE TO BE MULCHED WITH STRAW AT A RATE OF 3,000 POUNDS PER ACRE TO PROTECT THE BARE SOILS WHILE THE COVER CROP IS GETTING ESTABLISHED.
14. STRAW SHOULD BE SPREAD BY HAND IN A MANNER THAT PROMOTES FORMATION OF AN INTERWOVEN MATRIX. CRIMPING STRAW INTO THE SOIL IS HIGHLY RECOMMENDED ON ESPECIALLY WINDY SITES AND IS MANDATORY ON SITES WHERE STRAW IS MECHANICALLY CHOPPED AND BLOWN INTO PLACE.
15. ALL SOIL CUT AND FILL SLOPES THAT ARE STEEPER THAN 4:1 (HORIZONTAL TO VERTICAL) MUST BE COVERED WITH NORTH AMERICAN GREEN C125BN EROSION CONTROL BLANKET AFTER THE EROSION CONTROL SEED AND FERTILIZER HAVE BEEN PLACED.
16. CONTRACTOR MUST MAINTAIN AN ADEQUATE SUPPLY OF EROSION CONTROL MATERIALS ONSITE TO FACILITATE MAINTENANCE AND REPAIR THROUGHOUT THE RAINY SEASON. TYPICAL MATERIALS THAT SHOULD BE KEPT ONSITE INCLUDE SILT FENCE AND STRAW WATTLE SEDIMENT BARRIERS, GRAVEL BAGS, EROSION CONTROL BLANKETS, STRAW AND EROSION CONTROL SEED MIX.

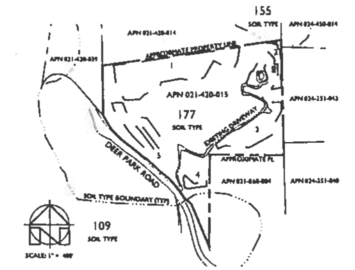
EROSION CONTROL COVER CROP MANAGEMENT NOTES:

1. ESTABLISHING AN EFFECTIVE VEGETATIVE COVER CROP WILL BE THE PRIMARY MEANS OF PREVENTING EROSION FROM THE PROPOSED VINEYARD DEVELOPMENT AREA. AFTER THE INITIAL LAND PREPARATION ACTIVITIES ARE COMPLETE A PERMANENT COVER CROP WILL BE PLANTED THROUGHOUT THE CLEARED AREA TO STABILIZE THE HILLSIDE THROUGH THE WINTER. A MINIMUM COVERAGE OF 80% IS REQUIRED TO MAINTAIN EROSION AT ACCEPTABLE LEVELS.
2. THE COVER CROP WILL BE MOWED IN THE SPRING AND WILL BE RESEEDED AND MULCHED IN THE FALL AS NECESSARY TO ACHIEVE THE SPECIFIED COVER PERCENTAGE.
3. THE COVER CROP SHOULD BE IRRIGATED PRIOR TO THE RAINY SEASON TO ESTABLISH A DENSE COVER PRIOR TO THE ONSET OF HEAVY RAINS. THIS IS ESPECIALLY IMPORTANT IN EROSION PRONE AREAS SUCH AS CROSS SLOPE DIVERSIONS. IN ORDER TO EFFECTIVELY ESTABLISH COVER IN THE CROSS SLOPE DIVERSIONS, AT LEAST TWO INCHES OF WATER SHOULD BE APPLIED TO A 20 FOOT WIDE STRIP CENTERED ALONG THE DIVERSIONS TO GERMINATE THE SEEDS. WATER SHOULD BE APPLIED BY SPRINKLER OR MICROSPRAYERS AT A RATE THAT DOES NOT CAUSE RUNOFF OR EROSION. ADDITIONAL WATER SHOULD BE APPLIED, AS NECESSARY, TO ACHIEVE THE DESIGN COVER PERCENTAGE AND TO MAINTAIN THE COVER CROP UNTIL SUFFICIENT RAINFALL OCCURS.
4. VINEYARD AVENUES WILL BE TREATED SIMILAR TO THE REMAINDER OF THE VINEYARD BLOCK IN THAT THEY WILL BE PROTECTED WITH A PERMANENT COVER CROP WITH DENSITIES MAINTAINED AT 80% OR MORE THROUGHOUT THE RAINY SEASON. ALTERNATIVELY, THE VINEYARD MANAGER MAY DECIDE TO ROCK LINE VINEYARD AVENUES TO LIMIT THEIR SUSCEPTIBILITY TO EROSION AND PROVIDE ALL WEATHER ACCESS AROUND THE VINEYARD.



LOCATION MAP

SCALE: 1" = 5,000'



OVERALL SITE PLAN / SOIL TYPE MAP

SCALE: 1" = 400'

SOIL TYPE LEGEND

109	BOOMER GRAVELLY LOAM, 30 TO 50 PERCENT SLOPES
155	KIDD LOAM, 15 TO 30 PERCENT SLOPES
177	ROCK OUTCROP - KIDD COMPLEX, 50 TO 75 PERCENT SLOPES

SOIL TYPE BOUNDARIES SHOWN ON THIS MAP ARE BASED ON THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM DATA.

PROJECT INFORMATION

PROPERTY OWNER & APPLICANT:
TFC - VINEYARD 22, LLC
c/o THOMAS F. CAREY
809 COOMBS STREET
NAPA, CA 94559
(707) 252-7122

SITE ADDRESS:
1156 DEER PARK ROAD
ANGWIN, CA 94508

ASSESSOR'S PARCEL NUMBER:
021-420-015

PARCEL SIZE:
22.61± ACRES

ZONING:
AGRICULTURAL WATERSHED (AW)

SHEET INDEX:

APPLIED CIVIL ENGINEERING INCORPORATED
2074 West Lincoln Avenue
Napa, CA 94558
(707)320-4968 (707)320-2395 Fax
www.appliedcivil.com

REGISTERED PROFESSIONAL ENGINEER MICHAEL R. MUELRATH NO. 67435 Exp. 12/31/2010 CIVIL STATE OF CALIFORNIA

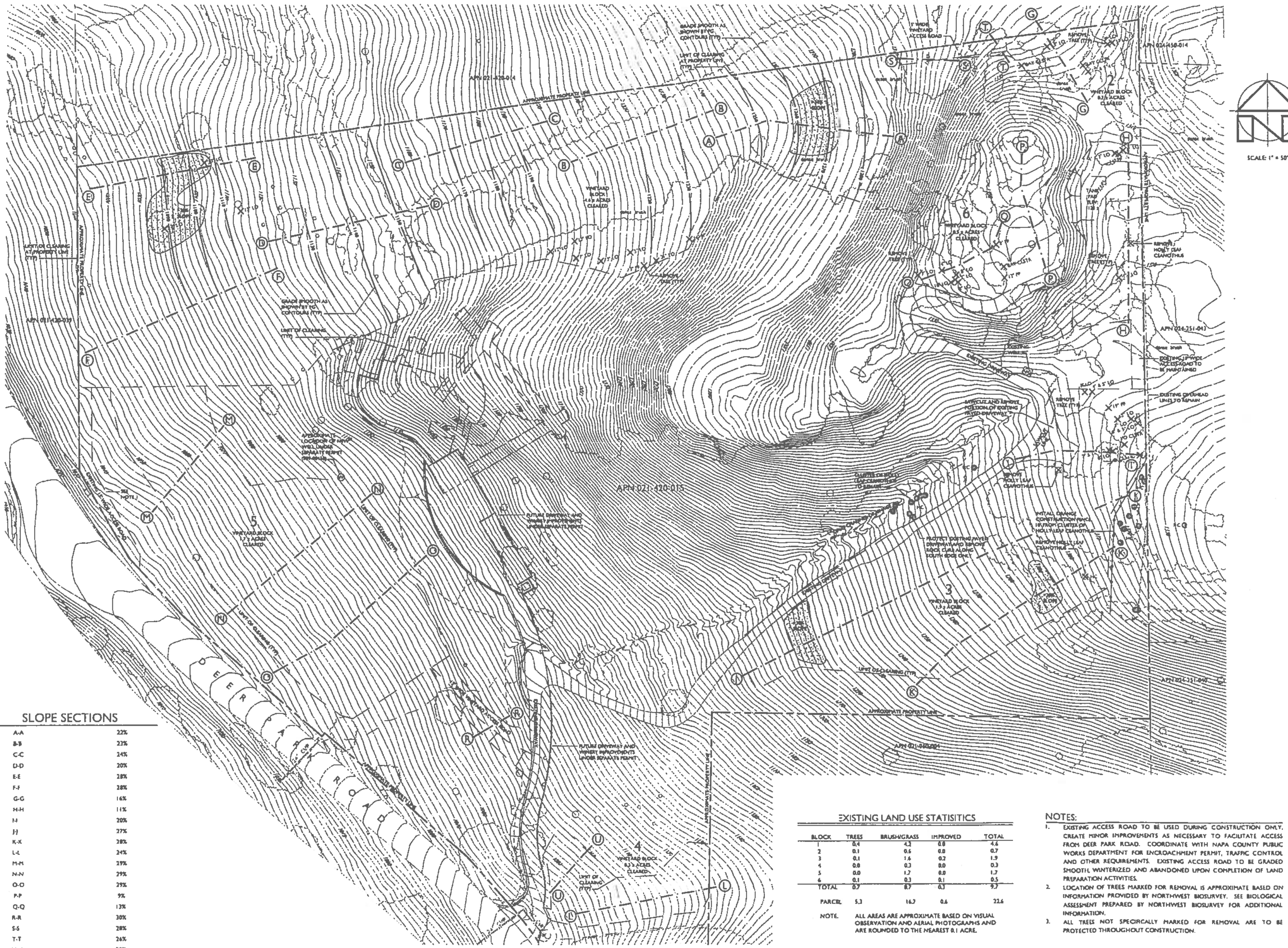
DESIGNED BY: MRM
DRAWN BY: MRM
CHECKED BY: MRM

VINEYARD 22

COVER SHEET & OVERALL SITE PLAN

TFC - VINEYARD 22, LLC
c/o THOMAS F. CAREY, MANAGER
809 COOMBS STREET
NAPA, CA 94559

DATE: JANUARY 29, 2010
JOB NUMBER: 09-102
FILE: 09-102ECP.DWG
ORIGINAL SIZE: 24" X 36"
SCALE: AS NOTED
SHEET NUMBER: C1 of 6



SLOPE SECTIONS

A-A	22%
B-B	23%
C-C	24%
D-D	20%
E-E	28%
F-F	28%
G-G	16%
H-H	11%
I-I	20%
J-J	27%
K-K	28%
L-L	24%
M-M	29%
N-N	29%
O-O	29%
P-P	9%
Q-Q	13%
R-R	30%
S-S	28%
T-T	26%
U-U	30%
AVERAGE	24%

CLEARING & GRADING PLAN

SCALE: 1" = 50'

EXISTING LAND USE STATISITICS

BLOCK	TREES	BRUSH/GRASS	IMPROVED	TOTAL
1	0.4	4.2	0.0	4.6
2	0.1	0.6	0.0	0.7
3	0.1	1.6	0.2	1.9
4	0.0	0.3	0.0	0.3
5	0.0	1.7	0.0	1.7
6	0.1	0.3	0.1	0.5
TOTAL	0.7	8.7	0.3	9.7
PARCEL	5.3	16.7	0.6	22.6

NOTE. ALL AREAS ARE APPROXIMATE BASED ON VISUAL OBSERVATION AND AERIAL PHOTOGRAPHS AND ARE ROUNDED TO THE NEAREST 0.1 ACRE.

NOTES:

1. EXISTING ACCESS ROAD TO BE USED DURING CONSTRUCTION ONLY. CREATE MINOR IMPROVEMENTS AS NECESSARY TO FACILITATE ACCESS FROM DEER PARK ROAD. COORDINATE WITH NAPA COUNTY PUBLIC WORKS DEPARTMENT FOR ENCROACHMENT PERMIT, TRAFFIC CONTROL AND OTHER REQUIREMENTS. EXISTING ACCESS ROAD TO BE GRADED SMOOTH, WINTERIZED AND ABANDONED UPON COMPLETION OF LAND PREPARATION ACTIVITIES.
2. LOCATION OF TREES MARKED FOR REMOVAL IS APPROXIMATE BASED ON INFORMATION PROVIDED BY NORTHWEST BIOSURVEY. SEE BIOLOGICAL ASSESSMENT PREPARED BY NORTHWEST BIOSURVEY FOR ADDITIONAL INFORMATION.
3. ALL TREES NOT SPECIFICALLY MARKED FOR REMOVAL ARE TO BE PROTECTED THROUGHOUT CONSTRUCTION.

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REGISTERED PROFESSIONAL ENGINEER MICHAEL R. MUELRATH NO. 67435 Exp. 12/31/2010 CIVIL STATE OF CALIFORNIA

DESIGNED BY: MRM
DRAWN BY: MRM
CHECKED BY: MRM

VINEYARD 22
CLEARING & GRADING PLAN

TFC - VINEYARD 22, LLC
c/o THOMAS F. CAREY, MANAGER
809 COOMBS STREET
NAPA, CA 94559

DATE: JANUARY 29, 2010
JOB NUMBER: 09-102
FILE: 09-102ECP.DWG
ORIGINAL SIZE: 24" X 36"
SCALE: AS NOTED
SHEET NUMBER: C2 OF 6

EROSION CONTROL & DEER FENCE PLAN

SCALE: 1" = 50'

NOTES:

1. SEE SHEET C1 FOR EROSION CONTROL NOTES.
2. SEE SHEETS C4, C5 AND C6 FOR EROSION CONTROL DETAILS.
3. ALL PERIMETER VINEYARD AVENUES ARE TO BE 18 FEET WIDE AT THE END OF VINE ROWS AND 8 FEET WIDE WHEN PARALLEL TO VINE ROWS.
4. SEE DETAILS FOR VINEYARD AVENUE WIDTHS AT INTRABLOCK TERRACES IN VINEYARD BLOCKS 1 AND 5.
5. VINE SPACING IS TO BE 5 FEET BETWEEN ROWS AND 3 FEET ALONG ROWS IN ALL BLOCKS.
6. ALL STORM DRAIN PIPING AND JOINTS ARE TO BE WATERTIGHT PER MANUFACTURER'S RECOMMENDATIONS.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL R. MUELRATH
NO. 67435
Exp. 12/31/2010
CIVIL
STATE OF CALIFORNIA

DESIGNED BY: MRM

DRAWN BY: MRM

CHECKED BY: MRM

VINEYARD 22

EROSION CONTROL & DEER FENCE PLAN

TFC - VINEYARD 22, LLC
c/o THOMAS F. CAREY, MANAGER
809 COOMBS STREET
NAPA, CA 94559

DATE: JANUARY 29, 2010

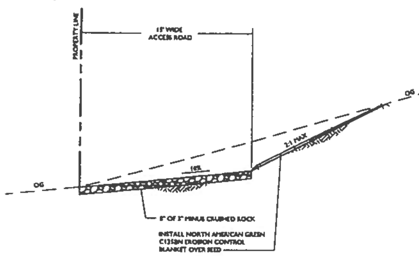
JOB NUMBER: 09-102

FILE: 09-102ECP.DWG

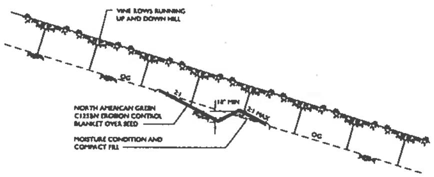
ORIGINAL SIZE: 24" X 36"

SCALE: AS NOTED

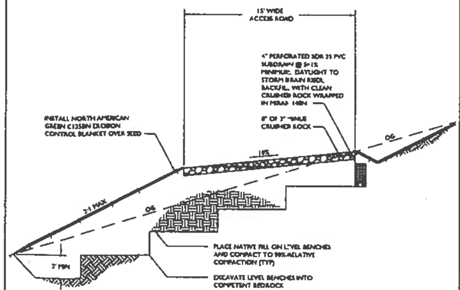
SHEET NUMBER: C3 OF 6



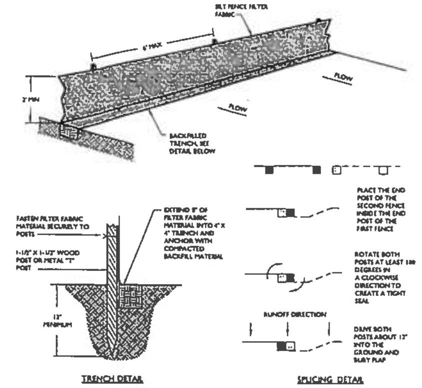
ACCESS BETWEEN BLOCK 1 & BLOCK 2 DETAIL
NOT TO SCALE



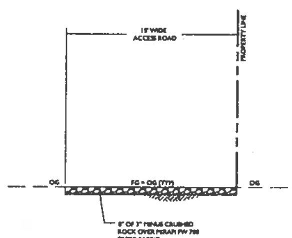
CROSS SLOPE DIVERSION DETAIL
NOT TO SCALE



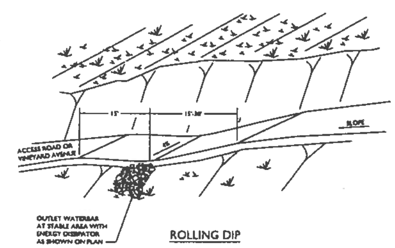
ACCESS FROM DRIVEWAY TO BLOCK 5 DETAIL
NOT TO SCALE



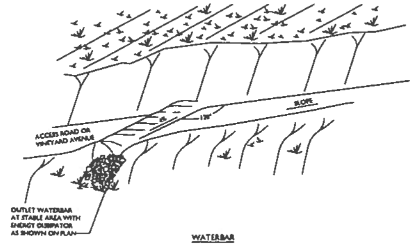
SILT FENCE INSTALLATION DETAIL
NOT TO SCALE



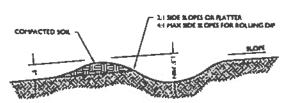
ACCESS BETWEEN BLOCK 2 & BLOCK 3 DETAIL
NOT TO SCALE



ROLLING DIP



WATERBAR

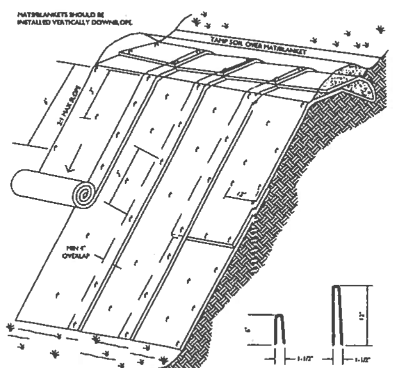


SECTION

MAXIMUM DISTANCE BETWEEN WATERBARS

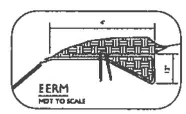
EROSION HAZARD	SLOPE ALONG ROAD			
	10% OR LESS	11% - 25%	26% - 50%	50% OR MORE
EXTREME	100'	75'	50'	50'
HIGH	150'	100'	75'	50'
MODERATE	200'	150'	100'	75'
LOW	300'	200'	150'	100'

WATERBAR / ROLLING DIP DETAIL
NOT TO SCALE



ISOMETRIC VIEW

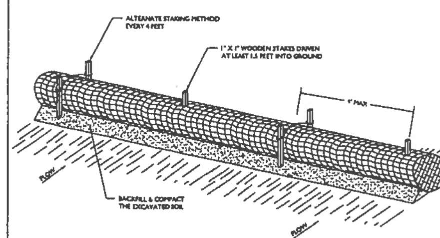
TYPICAL SLOPE SOIL STABILIZATION

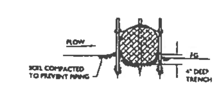


NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS / BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

EROSION CONTROL BLANKET DETAIL
NOT TO SCALE





NOTES:

1. PREPARE SMOOTH SLOPE BEFORE THE WATTLING PROCEDURE IS STARTED. SHALLOW GULLIES SHOULD BE SMOOTHED AS WORK PROGRESSES.
2. DIG SMALL TRENCHES ACROSS THE SLOPE ON CONTOUR, TO PLACE ROLLS IN. THE TRENCH SHOULD BE DEEP ENOUGH TO ACCOMMODATE HALF THE THICKNESS OF THE ROLL. WHEN THE SOIL IS LOOSE AND UNCOMPACTED, THE TRENCH SHOULD BE DEEP ENOUGH TO BURY THE ROLL 2/3 OF ITS THICKNESS BECAUSE THE GROUND WILL SETTLE.
3. IT IS CRITICAL THAT ROLLS ARE INSTALLED PERPENDICULAR TO WATER MOVEMENT, PARALLEL TO THE SLOPE CONTOUR. START BUILDING TRENCHES AND INSTALL ROLLS FROM THE BOTTOM OF THE SLOPE AND WORK UP.
4. LAY THE ROLL ALONG THE TRENCHES FITTING IT SNUGLY AGAINST THE SOIL. MAKE SURE NO GAPS EXIST BETWEEN THE SOIL AND THE STRAW WATTLE.
5. USE A STRAIGHT BAR TO DRIVE CLEAN HOLES THROUGH THE WATTLE AND INTO THE SOIL. DRIVE THE STAKE THROUGH PREPARED HOLE INTO SOIL. LEAVE ONLY 1 OR 2 INCHES OF STAKE EXPOSED ABOVE ROLL.
6. INSTALL STAKES AT 4 FEET MAX INTERVALS

FIBER ROLL / WATTLE SEDIMENT BARRIER DETAIL
NOT TO SCALE

APPLIED CIVIL ENGINEERING INCORPORATED
2074 West Lincoln Avenue
Napa, CA 94558
(707)320-4968 (707)320-2395 Fax
www.appliedcivil.com

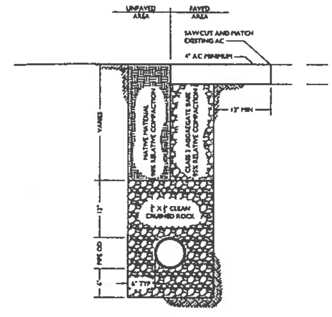
REGISTERED PROFESSIONAL ENGINEER
MICHAEL R. MUELRATH
NO. 67435
Exp. 12/31/2010
CIVIL
STATE OF CALIFORNIA

DESIGNED BY: MRM
DRAWN BY: MRM
CHECKED BY: MRM

VINEYARD 22
DETAIL SHEET

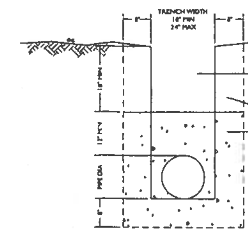
TFC - VINEYARD 22, LLC
c/o THOMAS F. CAREY, MANAGER
809 COOMBS STREET
NAPA, CA 94559

DATE: JANUARY 29, 2010
JOB NUMBER: 09-102
FILE: 09-102ECP.DWG
ORIGINAL SIZE: 24" X 36"
SCALE: AS NOTED
SHEET NUMBER: C4 OF 6



STORM DRAIN TRENCH DETAIL

NOT TO SCALE



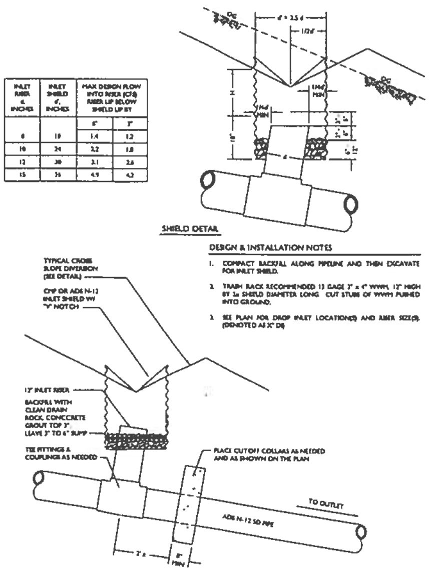
NOTE:

1. CUT KEYWAY FOR COLLAR INTO UNDISTURBED SOIL & POUR CONCRETE AGAINST SOIL.
2. FORM COLLAR IN TRENCH. INSTALL CUTOFF COLLAR PRIOR TO BACKFILLING TRENCH.
3. CUTOFF COLLAR SHALL BE A MINIMUM OF 12" THICK (ALONG THE LENGTH OF THE PIPE).

CUTOFF COLLAR DETAIL

NOT TO SCALE

INLET RISER d, INCHES	INLET SHIELD d', INCHES	MAX DESIGN FLOW INTO RISER (CFS) RISER LIP BELOW SHIELD LIP BY	
		6"	3"
8	18	1.4	1.2
10	24	2.2	1.8
12	30	3.1	2.6
15	36	4.9	4.2



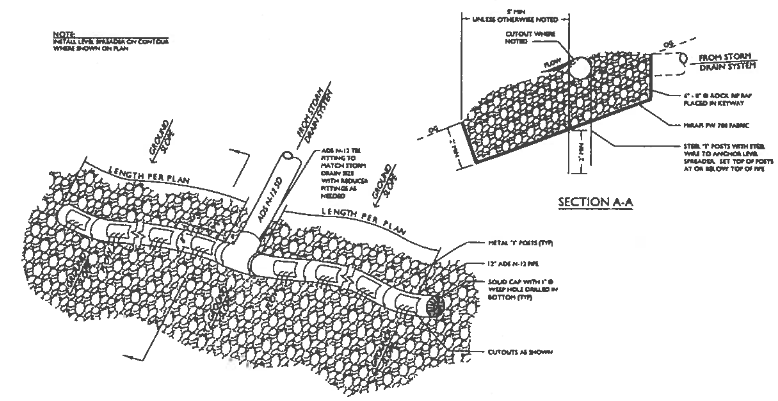
DESIGN & INSTALLATION NOTES

1. COMPACT BACKFILL ALONG PIPELINE AND THEN EXCAVATE FOR INLET SHIELD.
2. TRASH RACK RECOMMENDED 13 GAGE 2" x 4" WWM, 12" HIGH BY 3x SHIELD DIAMETER LONG. CUT STUBS OF WWM PUSHED INTO GROUND.
3. SEE PLAN FOR DROP INLET LOCATION(S) AND RISER SIZE(S). (DENOTED AS X" DI)

DRAIN INLET DETAIL

NOT TO SCALE

NOTE:
INSTALL LEVEL SPREADER ON CONTOUR WHERE SHOWN ON PLAN



SECTION A-A

LEVEL SPREADER DETAIL

NOT TO SCALE

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REGISTERED PROFESSIONAL ENGINEER MICHAEL R. MUELRATH NO. 67435 Exp. 12/31/2010 CIVIL STATE OF CALIFORNIA

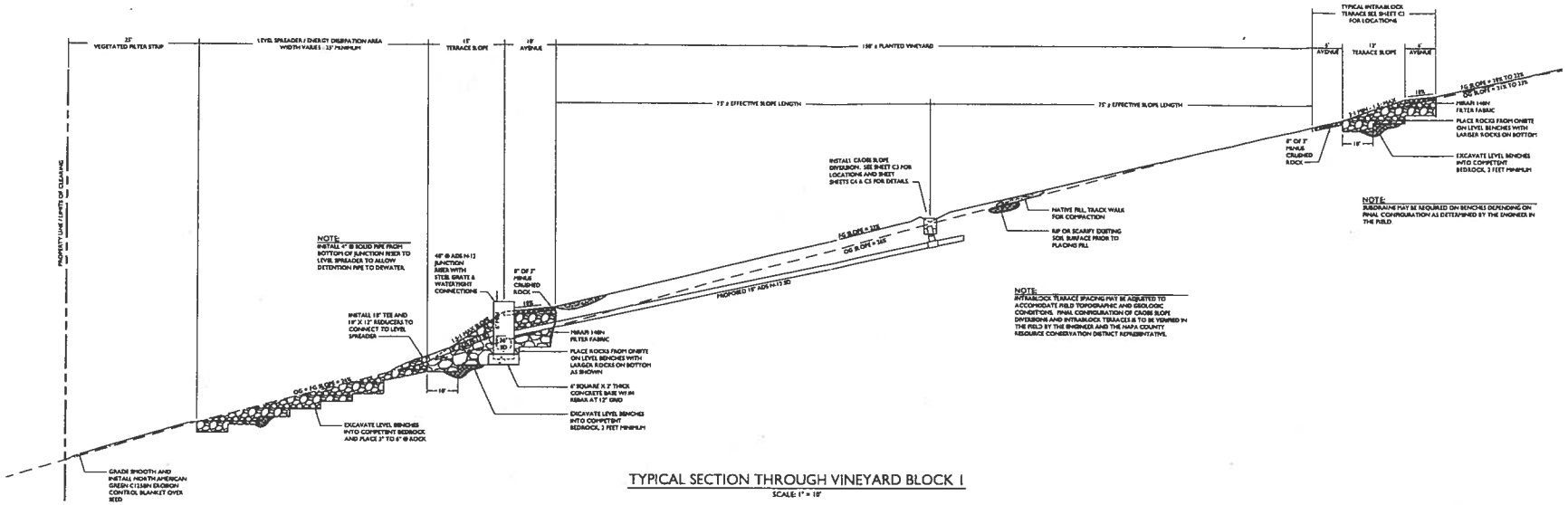
DESIGNED BY: MRM
DRAWN BY: MRM
CHECKED BY: MRM

VINEYARD 22

DETAIL SHEET

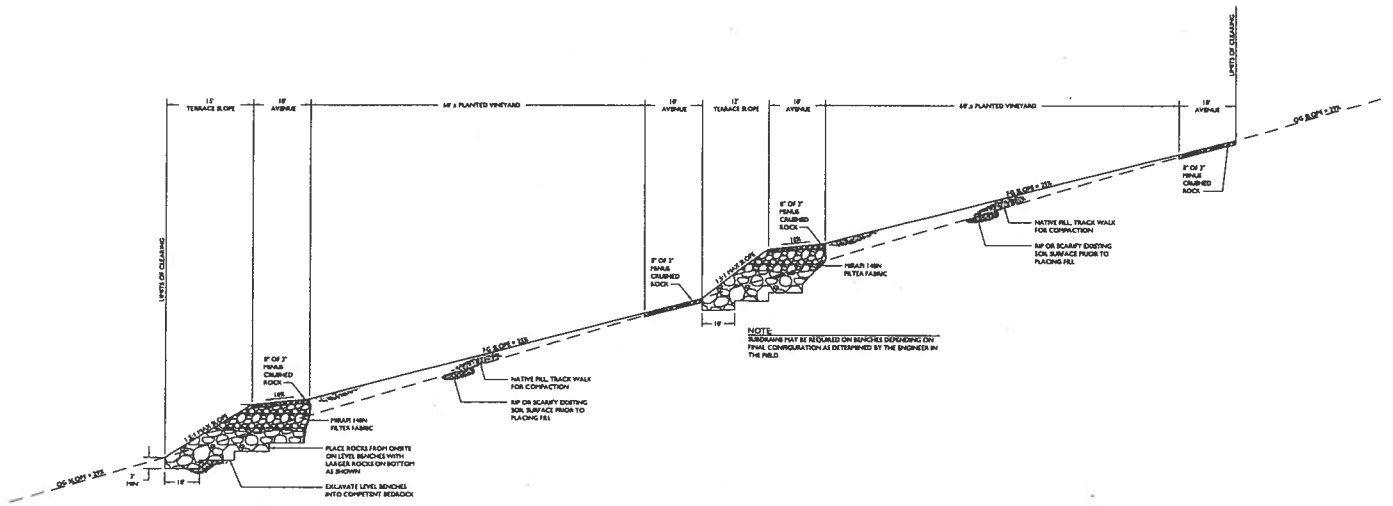
TFC - VINEYARD 22, LLC
c/o THOMAS F. CAREY, MANAGER
809 COOMBS STREET
NAPA, CA 94559

DATE: JANUARY 29, 2010
JOB NUMBER: 09-102
FILE: 09-102ECP.DWG
ORIGINAL SIZE: 24" X 36"
SCALE: AS NOTED
SHEET NUMBER: C5 OF 6



TYPICAL SECTION THROUGH VINEYARD BLOCK 1

SCALE: 1" = 10'



TYPICAL SECTION THROUGH VINEYARD BLOCK 5

SCALE: 1" = 10'

APPLIED CIVIL ENGINEERING
3074 West Lincoln Avenue
Napa, CA 94558
(707) 320-0768 (707) 320-2394 fax
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REGISTERED PROFESSIONAL ENGINEER
MITCHELL R. PHILLIPS
NO. 67435
Exp. 12/31/2010
CIVIL
STATE OF CALIFORNIA

DESIGNED BY: MRM
DRAWN BY: MRM
CHECKED BY: MRM

VINEYARD 22

BLOCK 1 & BLOCK 5 CROSS SECTIONS

TFC - VINEYARD 22, LLC
c/o THOMAS F. CAREY, MANAGER
809 COOMBS STREET
NAPA, CA 94559

DATE: JANUARY 29, 2010
JOB NUMBER: 09-102
FILE: 09-102ECP.DWG
ORIGINAL SIZE: 24" X 36"
SCALE: AS NOTED
SHEET NUMBER: C6
OF 6

USE PERMIT APPLICATION
VINEYARD 22 WINERY
1156 Deer Park Road, Deer Park

APPLICANT:
TFC-Vineyard 22, LLC
809 Coombs Street
Napa, CA 94559

APPLICANT'S REPRESENTATIVE:
Tom Carey
Dickenson, Peatman & Fogarty
809 Coombs Street
Napa, CA 94559
252-7122

APN: 021-420-015

ACREAGE: ±22.61

GENERAL PLAN & ZONING DESIGNATION: Agricultural Watershed

GENERAL PROJECT DESCRIPTION:

The purpose of this application is to obtain approval to establish a small premium winery with an annual production capacity of 10,000 gallons within ±3,400 square feet of new covered pad/work area and ±10,050 square feet of caves. As described in the winery calculation worksheet, the footprint of all winery structures is ±5,400 square feet. All winemaking and cellaring activities, including grape sorting, pressing and fermentation will occur entirely within the proposed winery cave. Outside work areas will be used for fruit and equipment staging, bottling via a truck-mounted mobile bottling unit, and shipping/receiving activities.

The property is currently developed with a paved driveway. Approximately 6.2 acres of vineyard will be developed under separate permit prior to development of the winery. An Erosion Control Plan (ECP) for the proposed vineyard development is being submitted concurrently with this Use Permit application. Grapes will be supplied from Applicant's vineyards located on the parcel, and elsewhere in Napa County. The winery will adhere to the 75% grape sourcing requirements as set forth in Section 12419(b) and/or (c) Napa County Winery Definition Ordinance. The winery will be staffed by one (1) full-time employee and zero to two (0-2) part-time employees, depending on the season. Administrative functions (e.g., reception, office, hospitality) will occur within the cave and on a patio located to the north of the cave. As noted above, grape sorting, pressing, fermentation and barrel ageing will occur entirely within the new ±10,050 square foot winery cave. Plot Plans, Floor Plans and Elevations of these improvements are included as part of this Use Permit Application.

Operation of the winery will generate fewer that 20 vehicle trips per day (including harvest) and four or fewer peak hour trips, except on those days when marketing events take place. The proposed winery will hold 10 marketing events per year, each with no more than 30 attendees, except for one wine auction event with up to 100 persons in attendance. There will be no temporary events. For the wine auction event, attendees will park offsite and will be transported to the winery by shuttle bus. No temporary events will be held.

FIGURE 4

WASTEWATER TREATMENT AND DISPOSAL:

Process and domestic wastewater will be handled by a disposal system comprised of holding tanks, a Lyve® Wastewater Treatment System and a sub-surface drip dispersal system (SSDS). A wastewater feasibility study report for this project has been prepared by Sterk Engineering, Inc. and is attached to this Use Permit Application. The report provides additional information about the design and siting of the Lyve® System and SSDS, and demonstrates that the proposed wastewater system has been designed to effectively handle the volumes of anticipated process wastewater and sanitary sewage generated by winery-related activities.

WATER ANALYSIS:

The parcel is not within a Groundwater Deficient Area. The project will be served by an existing 10 gallon per minute well and a second well to be developed during vineyard development under existing County Permit (#E09-00458). A Phase 1 water analysis has been prepared and is attached to this Use Permit Application. The analysis conservatively assesses water peak vineyard demand (i.e., the demand during the first year after vineyard planting). The conclusion of the analysis is that there is adequate water available and that the winery will not adversely impact water availability in the area. For both initial planting (±8.6 af/yr for Year 1) and projected annual demand (±6.3 af/yr from Year 2 on) the amount of water used is well within the thresholds of acceptable use established by the County (Allowable Water Allotment of 11.3 af/yr).

FIRE PROTECTION:

The project site is accessed from Deer Park Road by an existing paved private driveway that will be improved to the full standard required by CalFire/Napa County Fire (Fire) and the Napa County Department of Public Works (DPW). Modification to the existing entrance to the parcel will include removal of the existing entry gate and widening of the entry area to improve vehicle access. The existing driveway will access the winery site through the development of a new, paved extension from the existing driveway to the winery site. This driveway extension will be developed to the full standard required by Fire and DPW. The Applicant will maintain a 10 foot wide defensible space zone on each side of the access roadway from Deer Park Road to the project site. Commercial fire sprinkler systems, consistent with County requirements will be installed in the winery cave. Water for fire protection will be stored in on-site tanks.

TRAFFIC:

A traffic analysis has been prepared by George Nickelson, P.E., demonstrating that the proposed winery will generate an average of seven additional trips per day, and a maximum of 19 trips per day during normal operation, including during harvest (see Traffic Report attached to the Use Permit Application). This is less than the traffic generated by one single family home. Traffic load will be heavier on marketing event days (± 29 one way trips) and the day of the single wine auction-related marketing event. For the wine auction-related event, visitors will be required to park in a remote location and will be shuttled to/from the event by hired vans. It is estimated that the shuttle van service will generate 22 vehicle trips in/out of the winery driveway. At the behest of County staff, Mr. Nickelson has also prepared

a Supplemental Traffic Report that provides greater detail on visitation traffic, as well as traffic anticipated to be generated by the development of the winery facility itself. As part of our pre-application activities, Mr. Nickelson has discussed his methodology and findings with Mr. Rick Marshall of Napa County Public Works Department. In sum, the traffic analyses determine that the small amount of traffic associated with the winery will not reduce the level of service on the public road and does not require the installation of a turn lane per the County's Left-Turn Lane Warrant table.

VIEWSHED PROTECTION:

A viewshed analysis will be performed by Napa County Planning staff to verify that the proposed winery cave portals will not be visible under likely future conditions from any of the following County-designated "Scenic Roads": Deer Park Road, Silverado Trail, and State Highway 29 (St. Helena Highway). The analysis for this determination will include review of the proposed winery development plans in relation to existing site conditions. The proposed ± 18-foot tall shade structure constructed above the work pad is likely to be the only building element that will potentially be visible from any County Scenic roadway. In order to assure that the proposed winery remains non-visible from County scenic roads, the retaining walls and shade structure will use exterior materials (e.g., paint and stone facades) that will blend into the natural surroundings.

ACCESSORY ACTIVITIES:

Proposed marketing activities are outlined on the attached marketing plan. There are nine parking spaces proposed for employees and anticipated day-to-day visitor and miscellaneous delivery vehicles. It is not expected that all part-time and full-time employees will be working during the same hours or days. Additional parking for marketing events is available on the crush pad/loading dock area.

ENVIRONMENTAL ISSUES

The environmental sensitivity maps on file in the County Planning Department have been reviewed to determine if this project will be subject to any other environmental issues. These maps are used by the Department to determine whether any environmental conditions exist on a particular site which would warrant special studies or mitigation measures to avoid damage to environmental resources. These maps cover floodplain areas, archeological sites, endangered plants and animals, geologic hazards such as landslides and earthquake faults, potential inundation from dam failure and the like. A review of these maps indicated that the property is within County overlays for both archaeological and biological resources. As such, complete biological resource survey and archeological resource reports have been prepared for the project, and are submitted as part of this application. To summarize, no archeological resources were discovered, and the project has been modified to minimize impacts to protected or sensitive biological resources such as oak woodlands, timberland and the State-listed *Hollyleaf Ceanothus*. In addition, a site survey by forester Ms. Gerri Finn of the California Department of Forestry verified that proposed project will not adversely impact the limited commercial timberland on the property. Ms. Finn's letter is included with the Winery Use Permit submittal.

1505 Main Street St. Helena, CA 94574
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JUANCARLOS FERNANDEZ
PROJECT DESIGNER

USE PERMIT SUBMITTAL

V22 WINERY

1156 DEER PARK ROAD
DEER PARK, CALIFORNIA 94576

V22 WINERY

VINEYARD 22, LLC

1156 DEER PARK ROAD
DEER PARK, CALIFORNIA 94576
APN 021-420-000

PROJECT NUMBER	368
DATE	11.30.09
CHECKED BY	JCF
DRAWN BY	JCF
SCALE	AS NOTED

REVISIONS:

TITLE SHEET

A1.1.0

USE PERMIT

2 VICINITY MAP
SCALE: NTS

2 AERIAL MAP
SCALE: NTS

1 OVERALL SITE PLAN
SCALE: 1"=80'

1505 Main Street St. Helena, CA 94574
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JUANCARLOS FERNANDEZ
PROJECT DESIGNER

V22 WINERY

VINEYARD 22, LLC

1156 DEER PARK ROAD
DEER PARK, CALIFORNIA 94576
APN 021-420-000

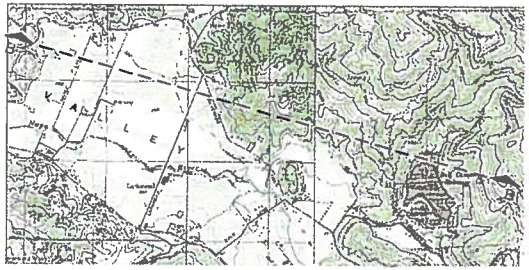
PROJECT NUMBER	365
DATE	11.20.09
CHECKED BY	JCF
DRAWN BY	JCF
SCALE	AS NOTED

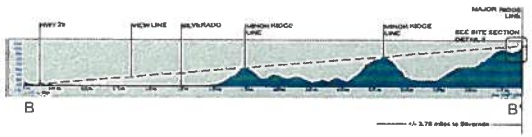
REVISIONS:

OVERALL SITE PLAN & AERIAL MAP

A1.1.1

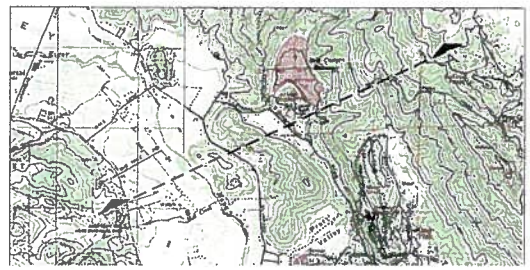
USE PERMIT



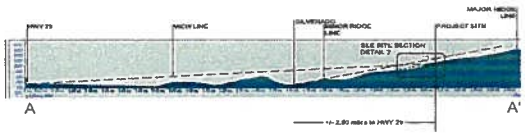


4 VIEW SHED VSS01

SCALE: N.T.S.

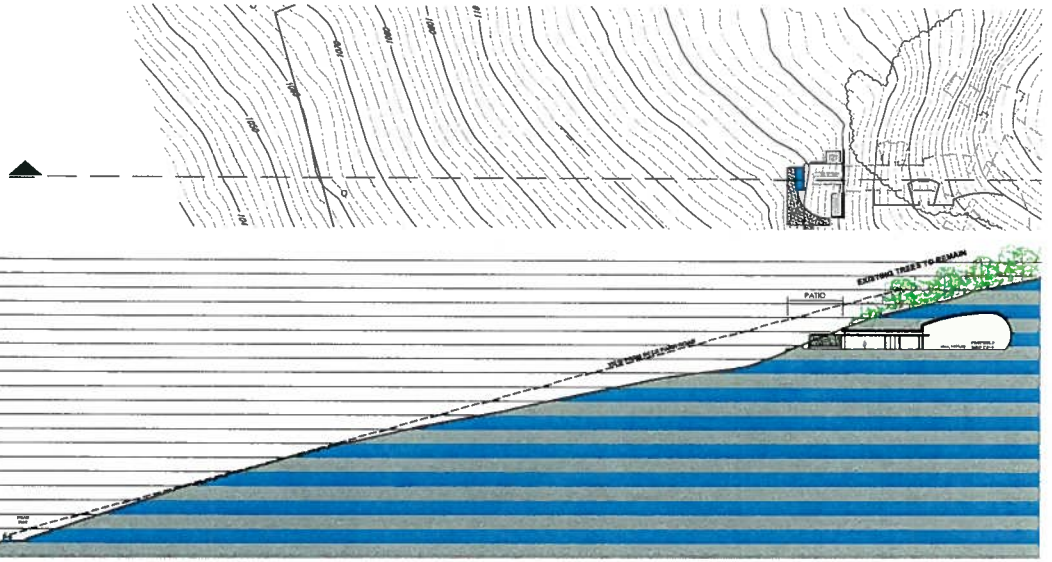


TOPOGRAPHIC MAP



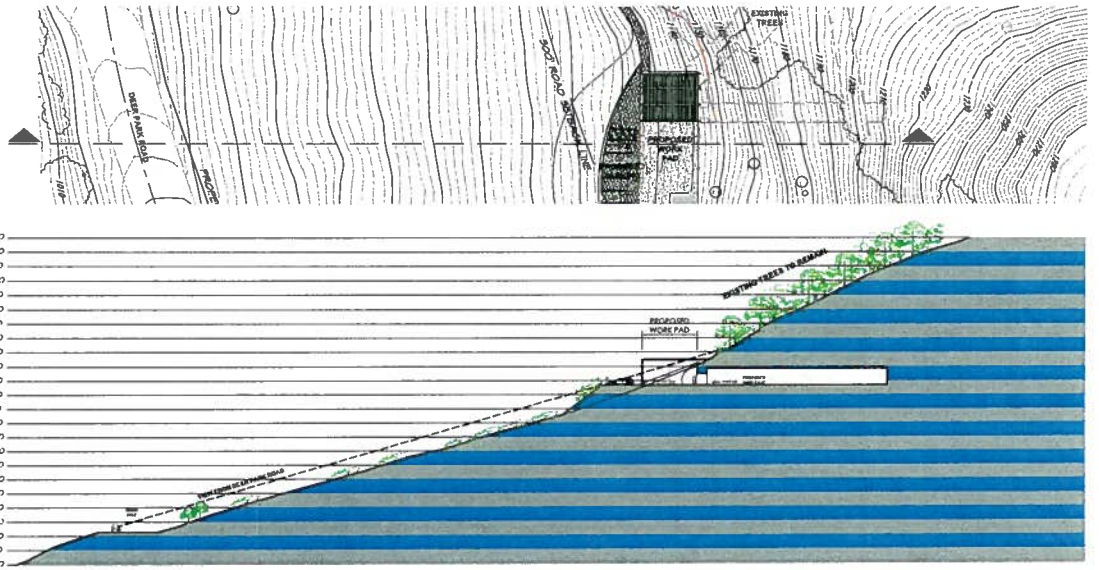
3 VIEW SHED VSS02

SCALE: N.T.S.



2 SITE SECTION

SCALE: 1"=40'



1 SITE SECTION

SCALE: 1"=40'

1505 Main Street St. Helena, CA 94574
TEL 707 963 1565 FAX 707 963 4509

JUANCARLOS FERNANDEZ
PROJECT DESIGNER

V22 WINERY

VINEYARD 22, LLC

1156 DEER PARK ROAD
DEER PARK, CALIFORNIA 94576
APN 021-420-000

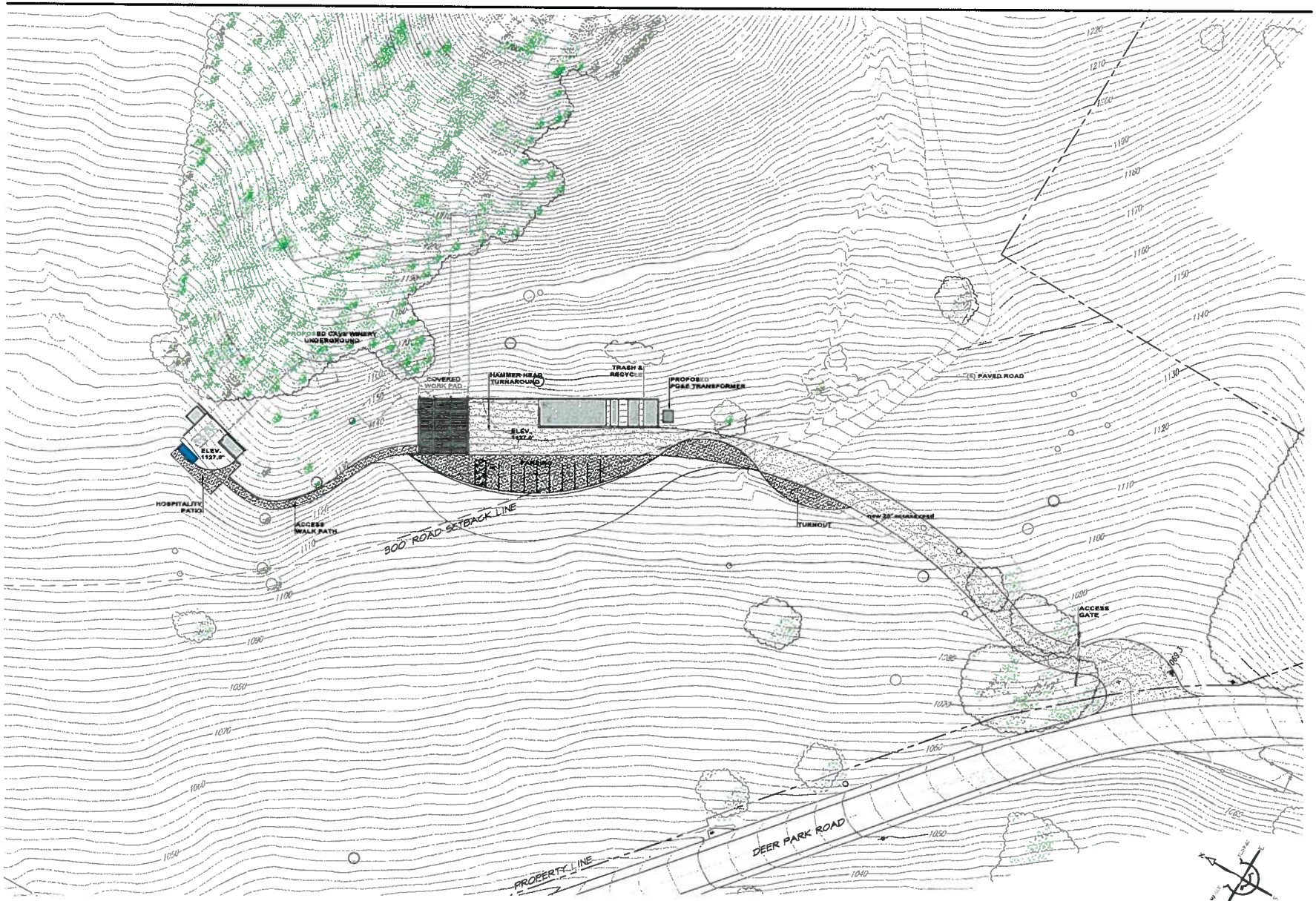
PROJECT NUMBER	368
DATE	11.30.09
CHECKED BY	JCF
DRAWN BY	JCF
SCALE	AS NOTED

REVISIONS:

VIEW SHED STUDY

A1.1.2

USE PERMIT



1 PROPOSED SITE PLAN
SCALE: 1"=30'

1505 Main Street St. Helena, CA 94574
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JUANCARLOS FERNANDEZ
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V22 WINERY

VINEYARD 22, LLC

1155 DEER PARK ROAD
DEER PARK, CALIFORNIA 94576
APN 021-420-000

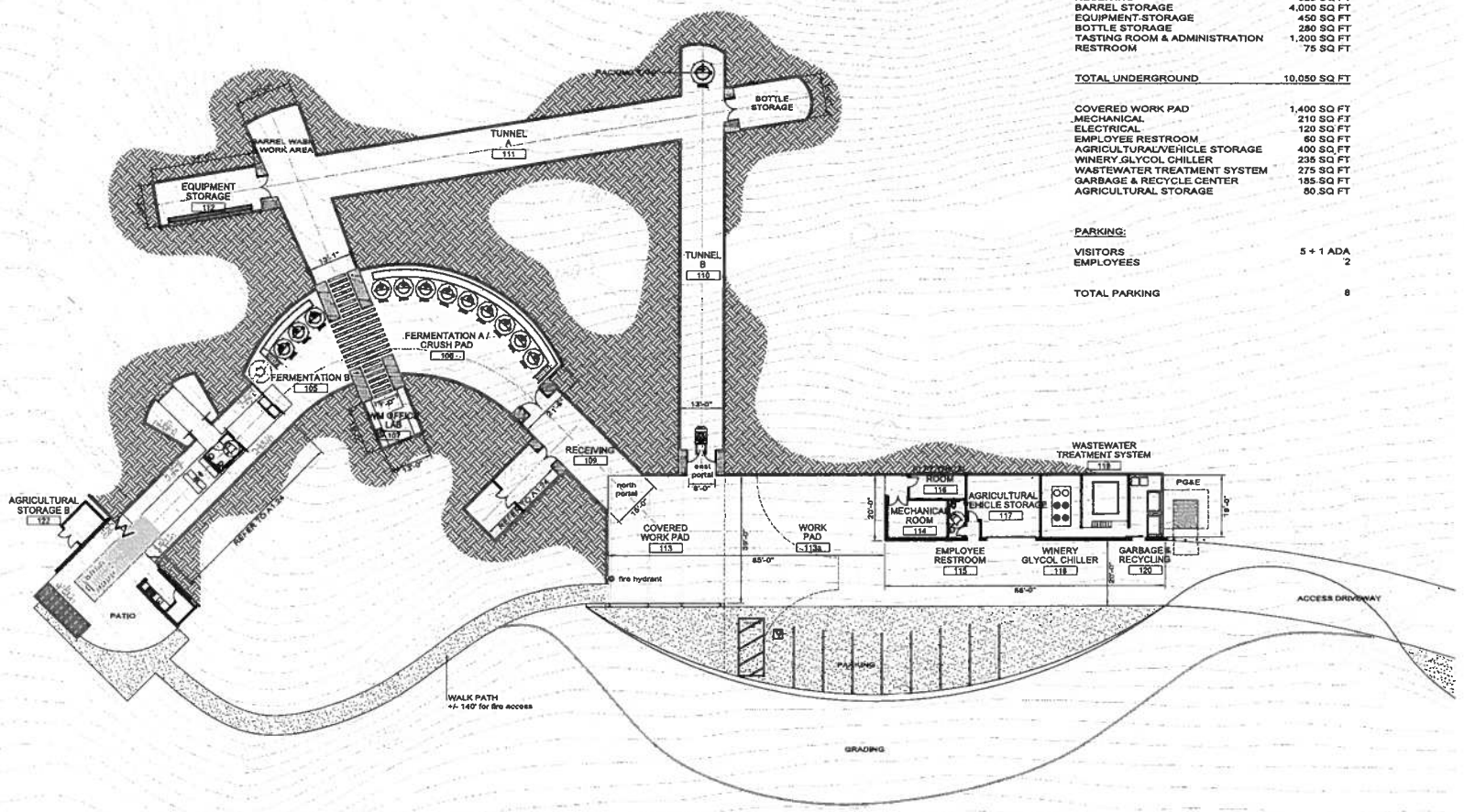
PROJECT NUMBER	368
DATE	11.30.09
CHECKED BY	JCF
DRAWN BY	JCF
SCALE	AS NOTED

REVISIONS:

SITE PLAN

A1.2.1

USE PERMIT



AREAS:

FERMENTATION A/ CRUSH PAD	1,900 SQ FT
FERMENTATION B	985 SQ FT
WM OFFICE/LAB	255 SQ FT
DRY STORAGE	180 SQ FT
CATERING	200 SQ FT
RECEIVING	525 SQ FT
BARREL STORAGE	4,000 SQ FT
EQUIPMENT STORAGE	450 SQ FT
BOTTLE STORAGE	280 SQ FT
TASTING ROOM & ADMINISTRATION	1,200 SQ FT
RESTROOM	75 SQ FT
TOTAL UNDERGROUND	**10,050 SQ FT**
COVERED WORK PAD	1,400 SQ FT
MECHANICAL	210 SQ FT
ELECTRICAL	120 SQ FT
EMPLOYEE RESTROOM	60 SQ FT
AGRICULTURAL/VEHICLE STORAGE	400 SQ FT
WINERY GLYCOL CHILLER	235 SQ FT
WASTEWATER TREATMENT SYSTEM	275 SQ FT
GARBAGE & RECYCLE CENTER	185 SQ FT
AGRICULTURAL STORAGE	80 SQ FT

PARKING:

VISITORS	5 + 1 ADA
EMPLOYEES	2
TOTAL PARKING	8

1 PROPOSED CAVE FLOOR PLAN

SCALE: 3/32"=1'-0"

1505 Main Street St. Helena, CA 94574
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JUANCARLOS FERNANDEZ
PROJECT DESIGNER

V22 WINERY

VINEYARD 22, LLC

1156 DEER PARK ROAD
DEER PARK, CALIFORNIA 94576
APN 021-420-000

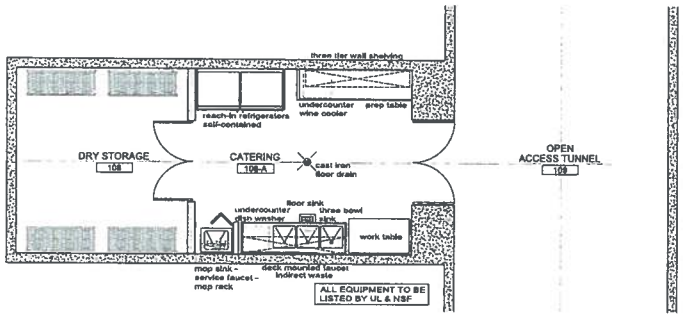
PROJECT NUMBER	368
DATE	10.30.09
CHECKED BY	JCF
DRAWN BY	JCF
SCALE	AS NOTED

REVISIONS:

CAVE FLOOR PLAN

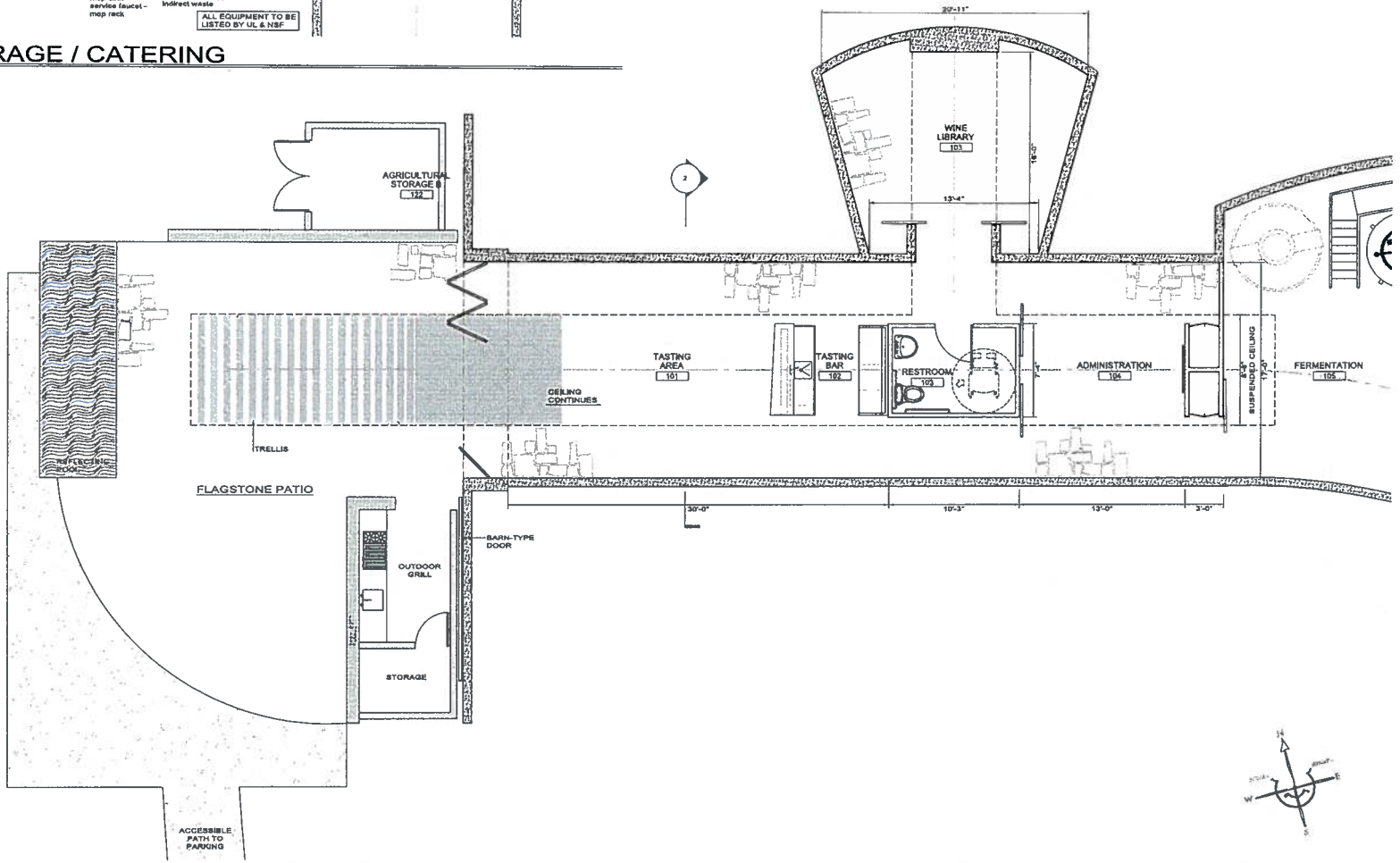
A1.2.2

USE PERMIT



2 DRY STORAGE / CATERING

SCALE: 1/4"=1'-0"



1 WINE TASTING / HOSPITALITY AREA FLOOR PLAN

SCALE: 1/4"=1'-0"

1505 Main Street St. Helena, CA 94574
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JUANCARLOS FERNANDEZ
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V22 WINERY

VINEYARD 22, LLC

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DEER PARK, CALIFORNIA 94576
APN 021-420-000

PROJECT NUMBER	368
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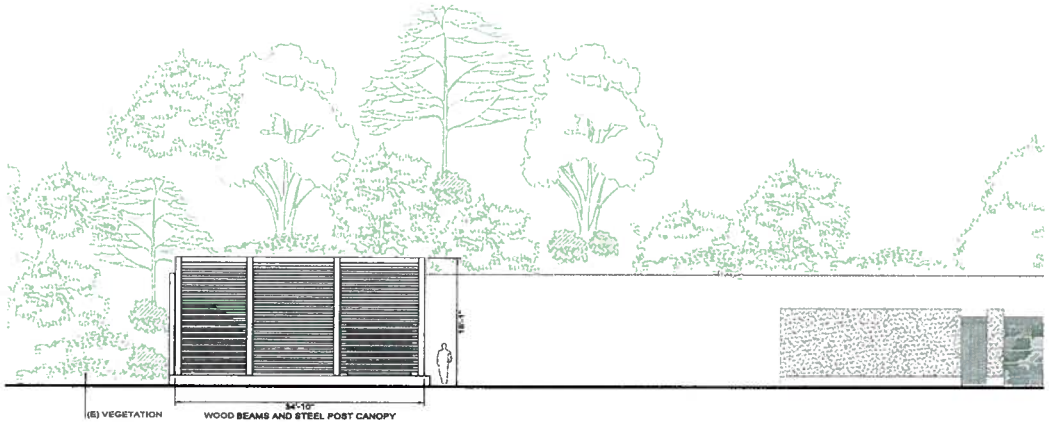
SCALE	AS NOTED

REVISIONS:

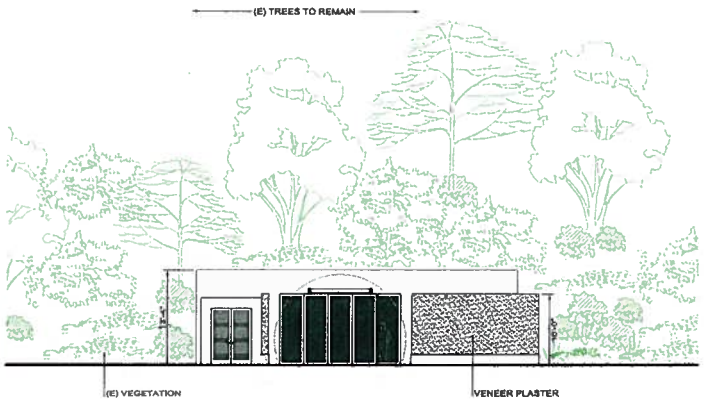
TASTING FLOOR PLAN

A1.2.3

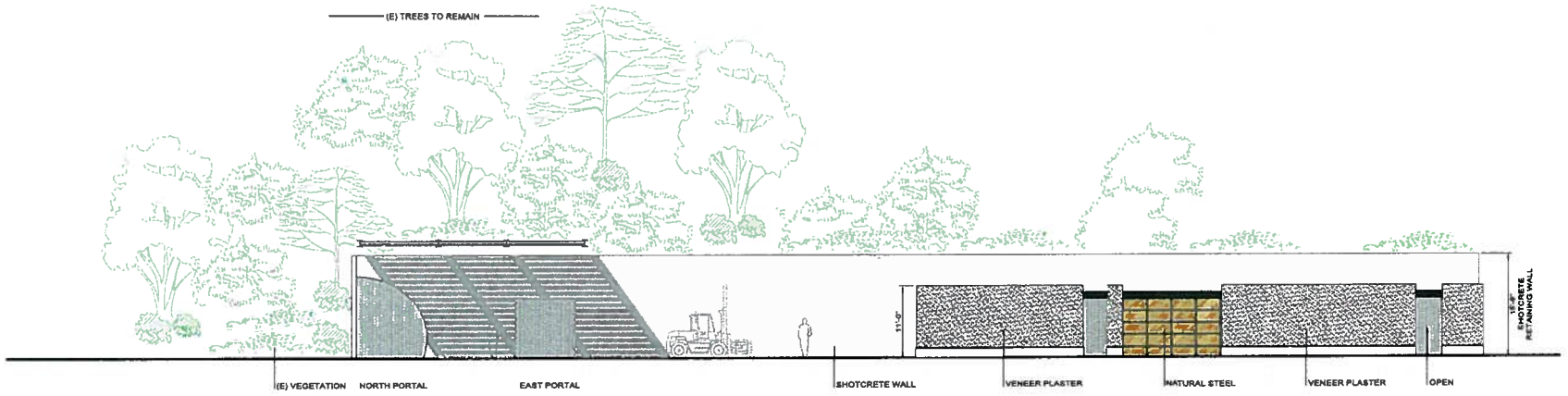
USE PERMIT



3 WORK PAD CANOPY
SCALE: 1/8"=1'-0"



2 HOSPITALITY ELEVATION
SCALE: 1/8"=1'-0"



1 MAIN ELEVATION
SCALE: 1/8"=1'-0"

1505 Main Street St. Helena, CA 94574
TEL 707 963 1565 FAX 707 963 4509

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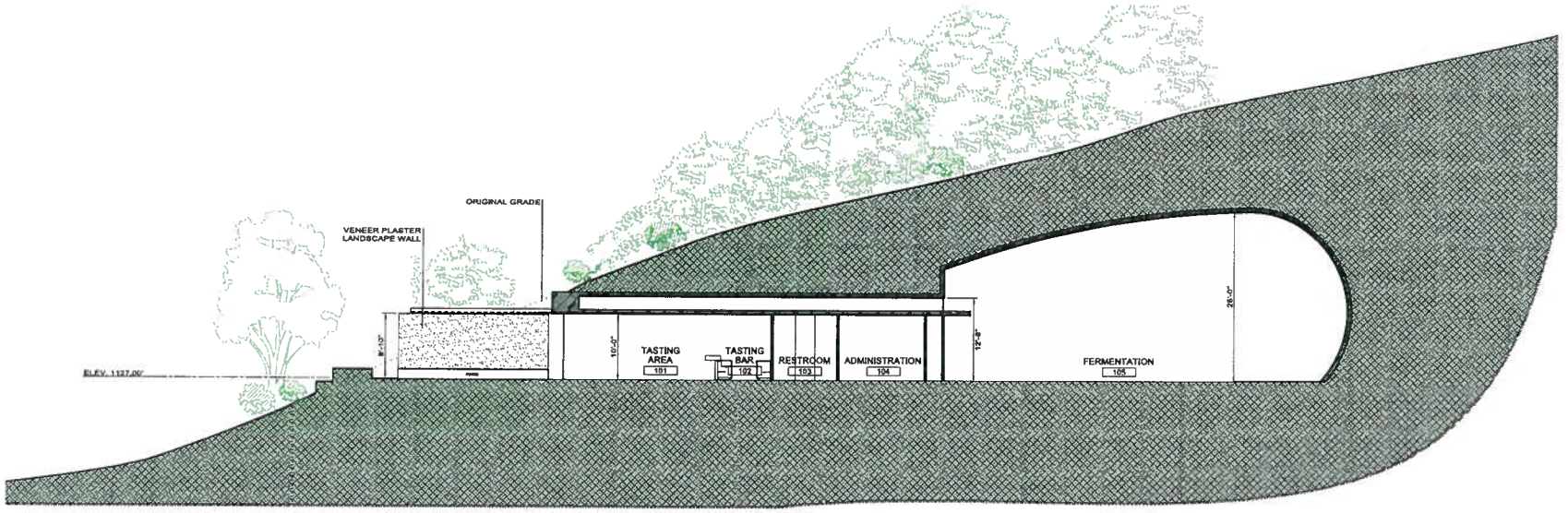
SCALE	AS NOTED

REVISIONS:

EXTERIOR ELEVATIONS

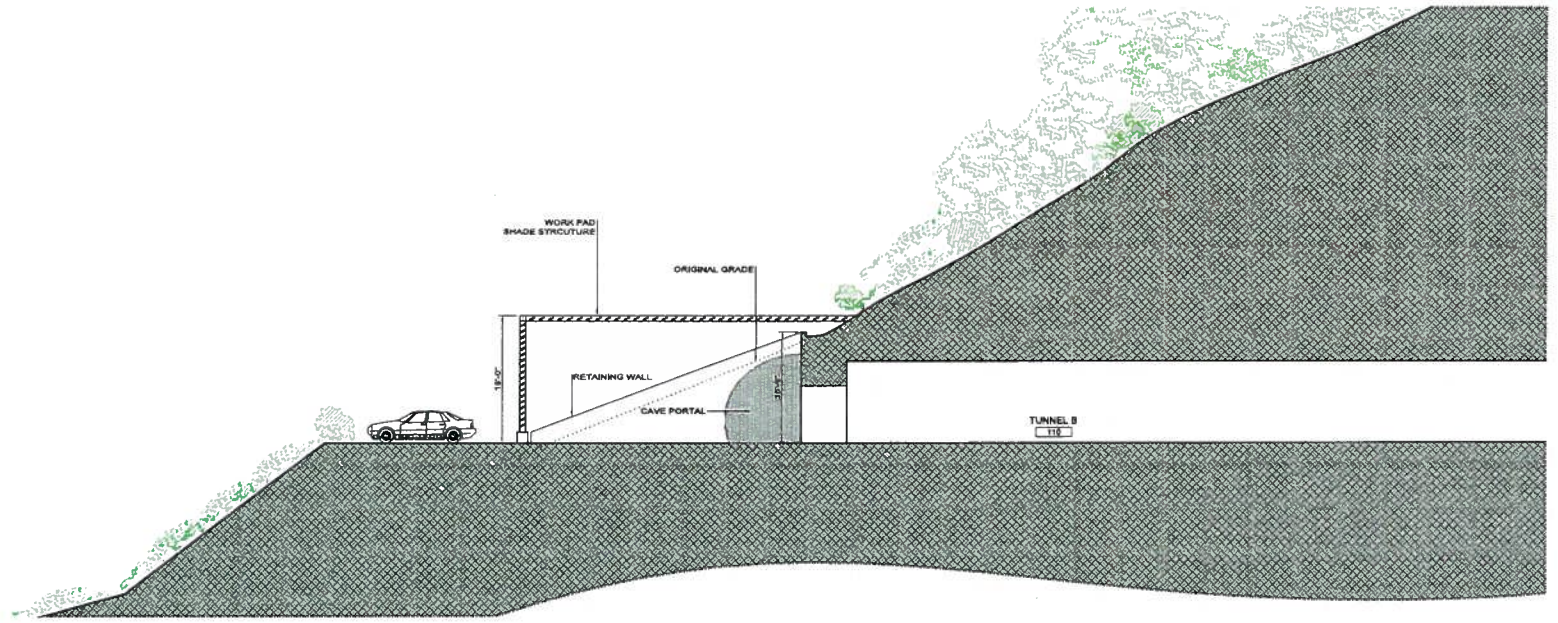
A1.2.4

USE PERMIT



2 SECTION HOSPITALITY PATIO

SCALE: 1/8"=1'-0"



1 SECTION @ EAST PORTAL

SCALE: 1/8"=1'-0"

1505 Main Street St. Helena, CA 94574
TEL 707 963 1585 FAX 707 963 4500

JUANCARLOS FERNANDEZ
PROJECT DESIGNER

V22 WINERY

VINEYARD 22, LLC

1156 DEER PARK ROAD
DEER PARK, CALIFORNIA 94576
APN 021-420-000

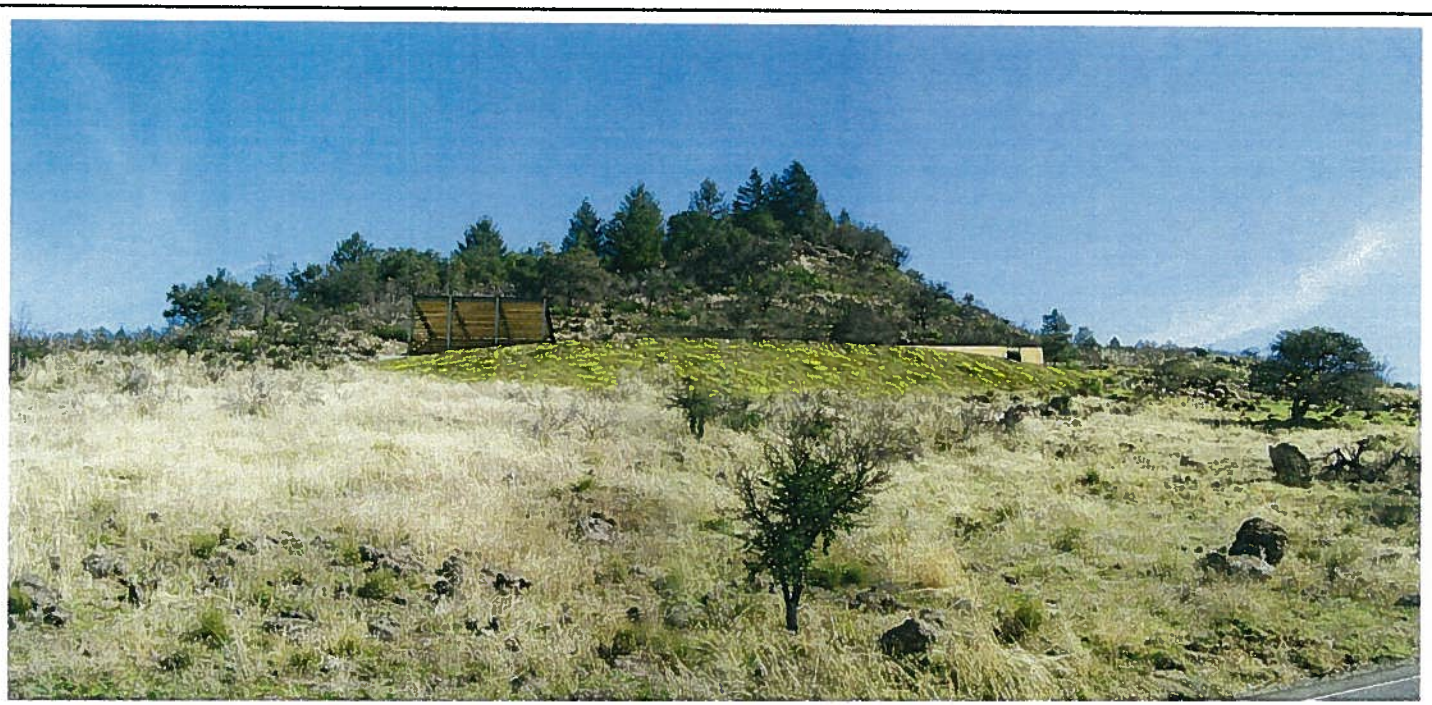
PROJECT NUMBER	368
DATE	11.30.09
CHECKED BY	JCF
DRAWN BY	JCF
SCALE	AS NOTED

REVISIONS:

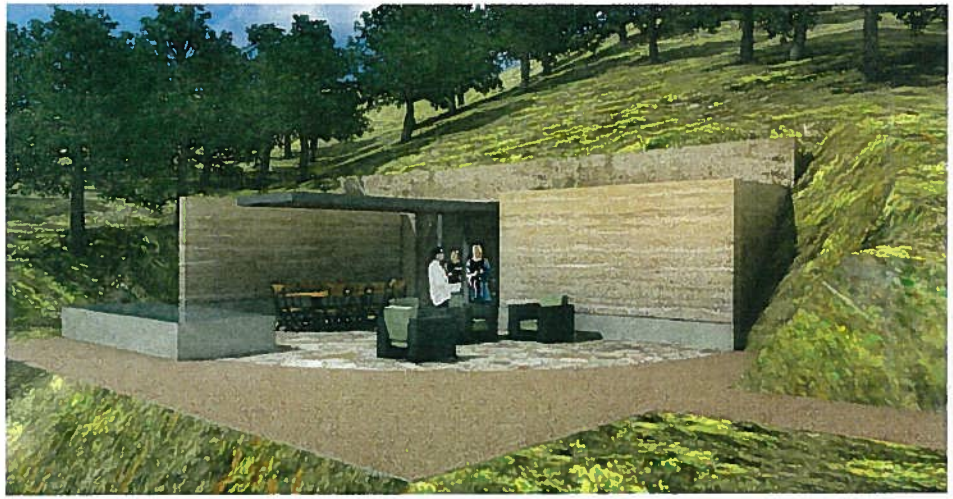
CAVE SECTIONS

A1.2.5

USE PERMIT



3 VIEW FROM DEER PARK RD
SCALE: 1/8"=1'-0"



1 VIEW FROM HOSPITALITY PATIO
SCALE: 1/8"=1'-0"

2 VIEW FROM WORK PAD & PARKING
SCALE: 1/8"=1'-0"

1505 Main Street St. Helena, CA 94574
TEL 707 963 1565 FAX 707 963 4509

JUANCARLOS FERNANDEZ
PROJECT DESIGNER

V22 WINERY

VINEYARD 22, LLC

1156 DEER PARK ROAD
DEER PARK, CALIFORNIA 94576
APN 021-420-000

PROJECT NUMBER	368
DATE	11.30.09
CHECKED BY	JCF
DRAWN BY	JCF
SCALE	AS NOTED

REVISIONS:

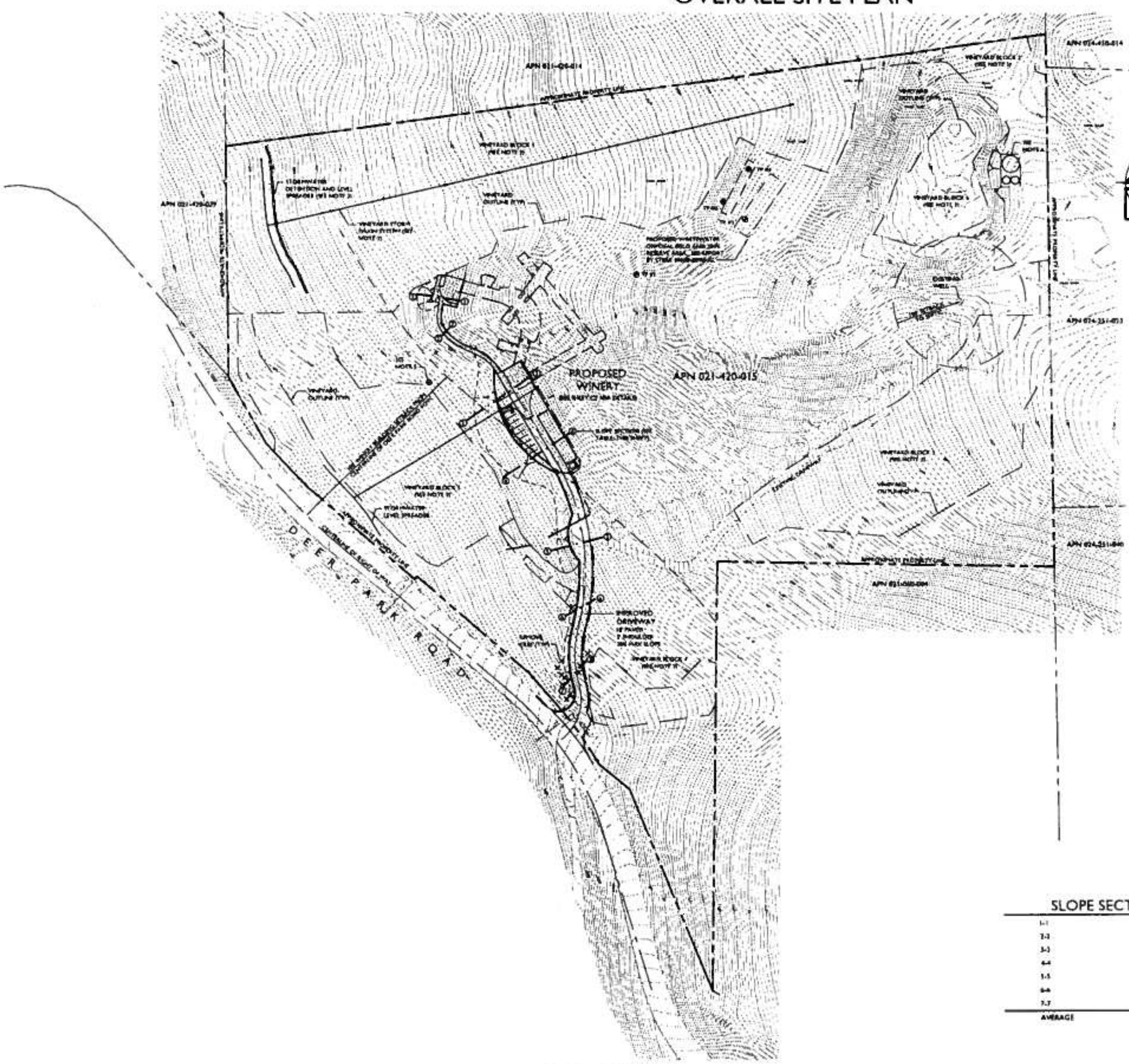
EXTERIOR RENDERINGS

A1.2.6

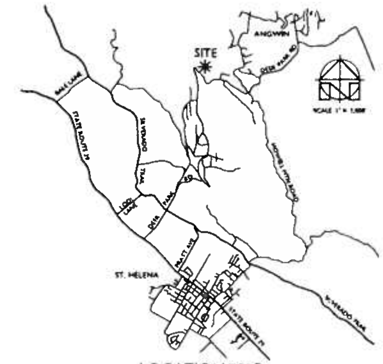
USE PERMIT

VINEYARD 22 WINERY

OVERALL SITE PLAN



OVERALL SITE PLAN
SCALE: 1" = 80'



LOCATION MAP
SCALE: 1" = 5,000'

PROJECT INFORMATION

PROPERTY OWNER & APPLICANT:
VINEYARD 22, LLC
C/O TOM CAREY
809 COOMBS STREET
NAPA, CA 94559
(707) 252-7122

SITE ADDRESS:
1156 DEER PARK ROAD
ANGWIN, CA 94508

ASSESSOR'S PARCEL NUMBER:
021-420-015

PARCEL SIZE:
22.61± ACRES

ZONING:
AGRICULTURAL WATERSHED (AW)

DOMESTIC WATER SOURCE:
PRIVATE WELL

WASTEWATER DISPOSAL:
ONSITE TREATMENT & DISPOSAL

NOTES:

1. THE TOPOGRAPHIC INFORMATION SHOWN ON THIS SLOPE ANALYSIS IS BASED ON THE "TOPOGRAPHIC MAP OF THE LANDS OF WILLIAM DAL MOLIN, TRUST" PREPARED BY TERRA FIRMA SURVEYS, INC. DATED MARCH 2009.
2. THE BOUNDARIES SHOWN ON THIS DRAWING DO NOT REPRESENT A BOUNDARY SURVEY. PROPERTY LINES ARE APPROXIMATE BASED ON DATA PROVIDED BY TERRA FIRMA SURVEYS, INC.
3. SEE VINEYARD 22 VINEYARD DEVELOPMENT AND EROSION CONTROL PLAN FOR GRADING, DRAINAGE AND ADDITIONAL INFORMATION RELATED TO THE PROPOSED VINEYARD DEVELOPMENT (P09-00465-ECPA).
4. TREES MARKED FOR REMOVAL ARE BASED ON MAP PREPARED BY NORTHWEST BIOSURVEY. LOCATIONS ARE APPROXIMATE.
5. APPROXIMATE LOCATION OF NEW WELL TO BE DRILLED UNDER PERMIT E09-00458.
6. PROPOSED WATER TANKS. ONE FIRE PROTECTION WATER TANK FOR WINERY (APPROXIMATELY 30,000 TO 50,000 GALLONS). TWO TANKS FOR VINEYARD IRRIGATION (10,0000 GALLONS EACH).

SLOPE SECTIONS

1-1	41%
2-2	47%
3-3	35%
4-4	28%
5-5	30%
6-6	29%
7-7	27%
AVERAGE	35%

LEGEND

- EXISTING PROPERTY BOUNDARY (SUBJECT PARCEL)
- EXISTING PROPERTY BOUNDARY (ADJACENT PARCEL)
- FLOW LINE
- EXISTING TREE TO BE REMOVED (SIZE AND TYPE AS NOTED)
- TEST PIT FOR WASTEWATER DISPOSAL SYSTEM
- PROPOSED IMPERVIOUS SURFACE (ASPHALT)
- PROPOSED IMPERVIOUS SURFACE (CONCRETE)
- PROPOSED PERVIOUS SURFACE

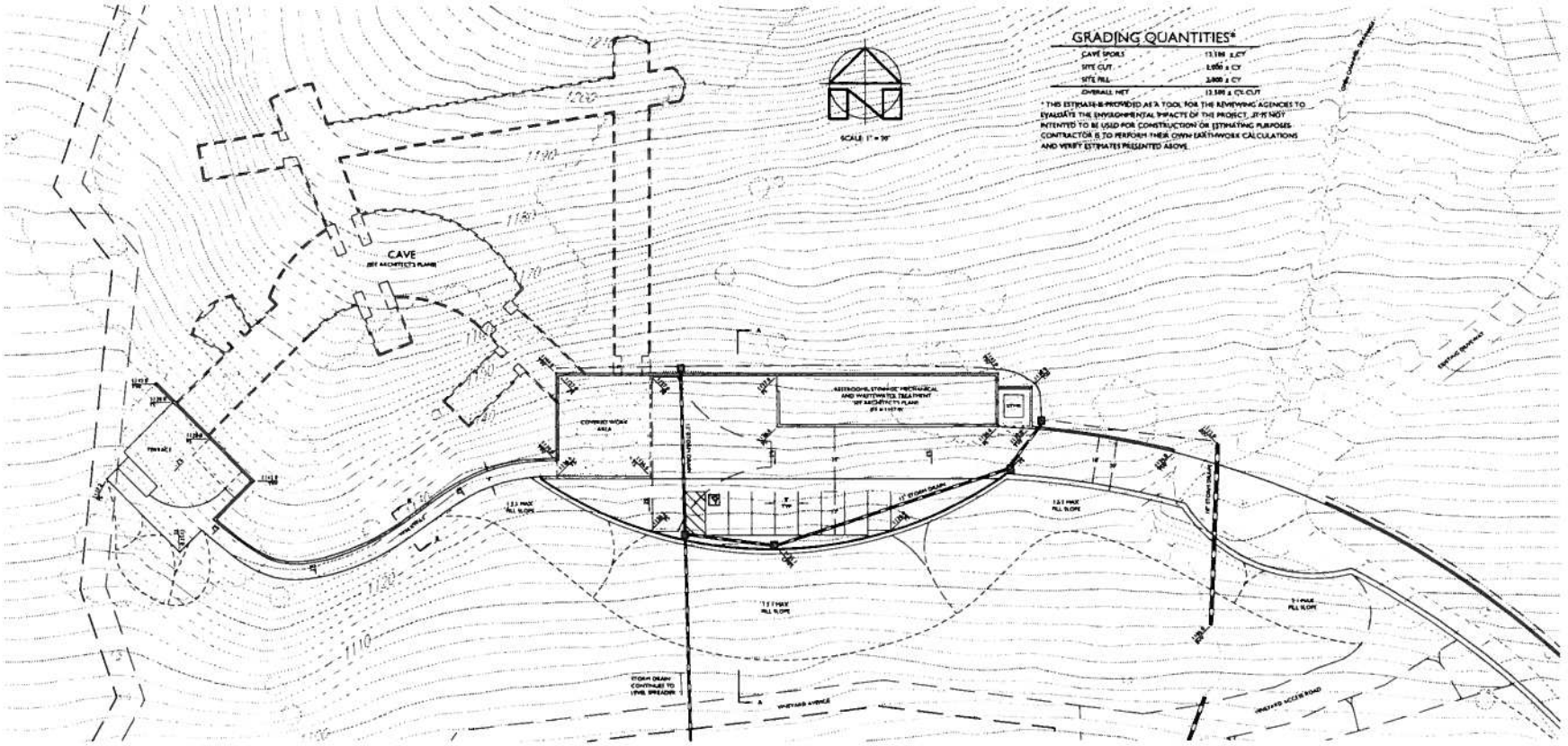
APPLIED CIVIL ENGINEERING

DESIGNED BY: MRM
DRAWN BY: MRM
CHECKED BY: MRM

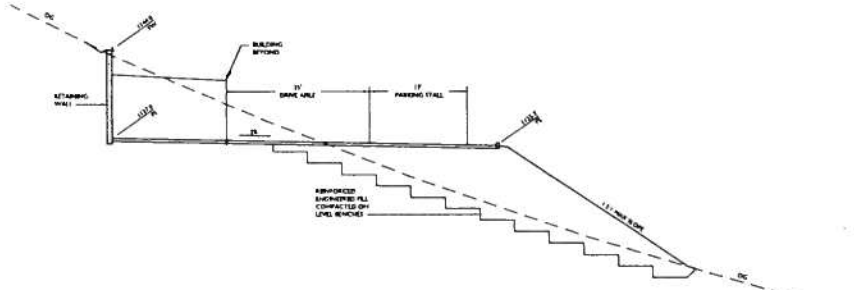
VINEYARD 22 WINERY
CONCEPTUAL SITE PLAN

VINEYARD 22, LLC
809 COOMBS STREET
NAPA, CA 94559

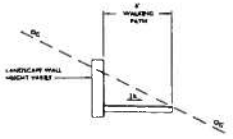
DATE: DECEMBER 3, 2009
JOB NUMBER: 09-102
FILE: 09-102CONC.DWG
ORIGINAL SIZE: 24" X 36"
SCALE: AS NOTED
SHEET NUMBER: C1 OF 2



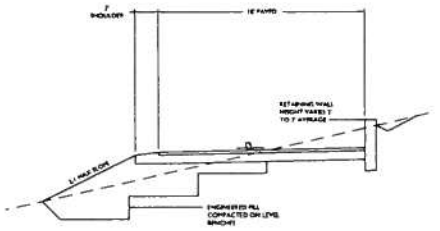
CONCEPTUAL GRADING PLAN
SCALE 1" = 30'



SECTION A-A
SCALE 1" = 10'



SECTION B-B
SCALE 1" = 5'



TYPICAL DRIVEWAY SECTION
SCALE 1" = 5'

APPLIED CIVIL ENGINEERING

DESIGNED BY: MRM
DRAWN BY: MRM
CHECKED BY: MRM

VINEYARD 22 WINERY
CONCEPTUAL GRADING PLAN

VINEYARD 22, LLC
809 COOMBS STREET
NAPA, CA 94559

DATE: DECEMBER 3, 2009
JOB NUMBER: 09-102
FILE: 09-102CONC.DWG
ORIGINAL SIZE: 24" X 36"
SCALE: AS NOTED
SHEET NUMBER: C2 OF 2

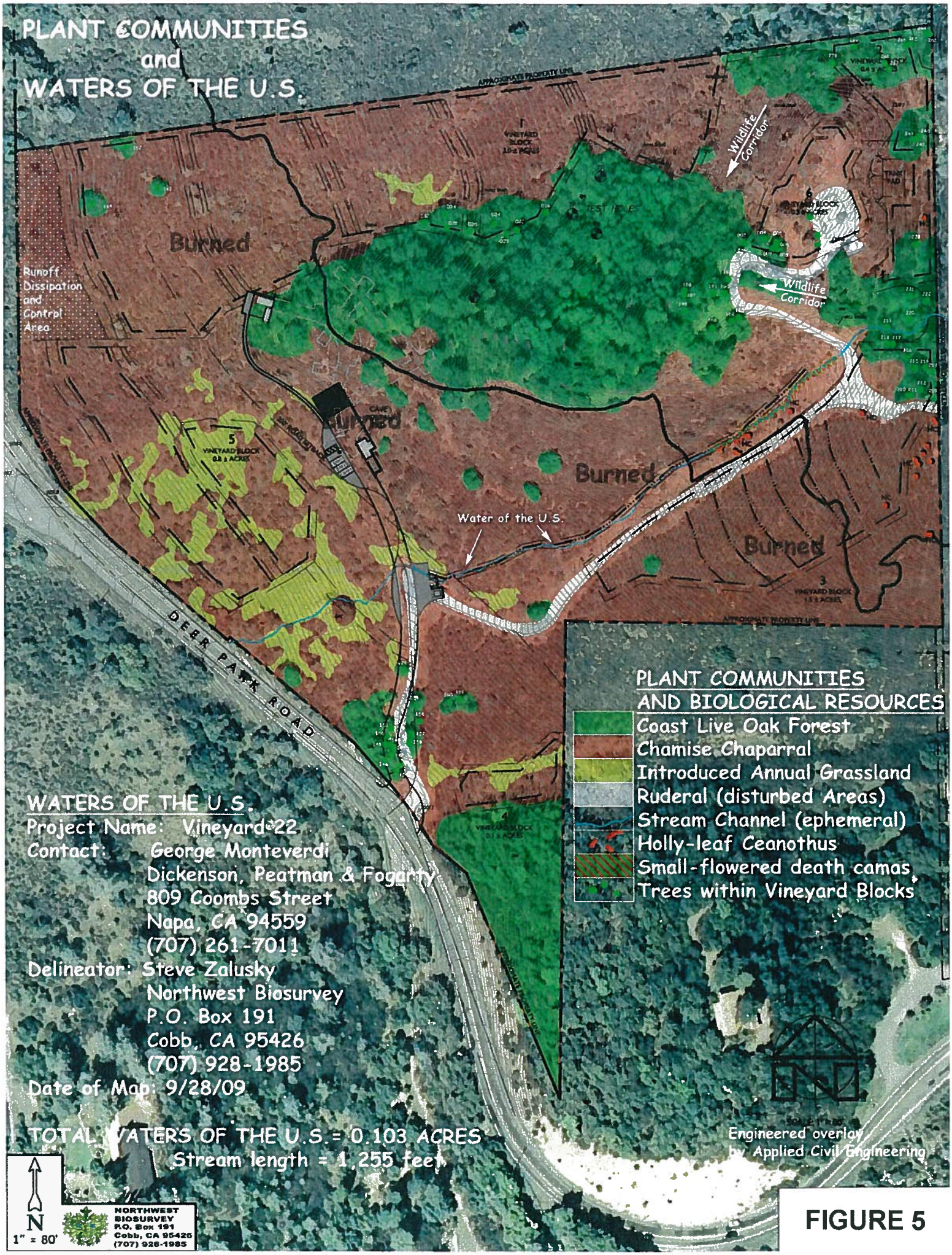

PLANT COMMUNITIES
and
WATERS OF THE U.S.
Wildlife Corridor
Burned
Runoff Dissipation and Control Area
Wildlife Corridor
Burned
Burned
Water of the U.S.
Burned
DEER PARK ROAD
PLANT COMMUNITIES
AND BIOLOGICAL RESOURCES
Coast Live Oak Forest
Chamise Chaparral
Introduced Annual Grassland
Ruderal (disturbed Areas)
Stream Channel (ephemeral)
Holly-leaf Ceanothus
Small-flowered death camas
Trees within Vineyard Blocks
WATERS OF THE U.S.
Project Name: Vineyard 22
Contact: George Monteverdi
Dickenson, Peatman & Fogarty
809 Coombs Street
Napa, CA 94559
(707) 261-7011
Delineator: Steve Zalusky
Northwest Biosurvey
P.O. Box 191
Cobb, CA 95426
(707) 928-1985
Date of Map: 9/28/09
TOTAL WATERS OF THE U.S. = 0.103 ACRES
Stream length = 1,255 feet
Engineered overlay
by Applied Civil Engineering
N
1" = 80'
NORTHWEST BIOSURVEY
P.O. Box 191
Cobb, CA 95426
(707) 928-1985

FIGURE 5

George W. Nickelson, P.E.

Traffic Engineering • Transportation Planning

October 29, 2009

Mr. Thomas F. Carey
Attorney at Law
Dickenson, Peatman & Fogarty
809 Coombs Street
Napa, CA 94559

Subject: ***Focused Traffic Study for a Proposed Winery at #1156 Deer Park Road in Napa County***

Dear Mr. Carey:

This letter report summarizes a focused traffic study for a proposed winery at #1156 Deer Park Road in Napa County. This study reflects my discussions with George Monteverdi of your office and our recent experience in the project area. This letter report has identified the existing traffic conditions, calculated the added traffic due to the proposed winery and evaluated the effects of that traffic.

1. Existing Traffic Conditions

Deer Park Road is a two-lane rural road in the area of the winery site. At the winery site Deer Park Road does not have a left turn lane. Based on Napa County records, Deer Park Road has a daily traffic volume of 5,670 vehicles in the project vicinity.(1)

2. Traffic Effects of the Proposed Winery

a. Project Description

The proposed winery will have an annual production of 10,000 gallons.(2) The property will have grape vines planted that would yield about 5,000 gallons of wine production. The remaining 5,000 gallons of production would be generated by off-site grapes being delivered to the winery.

It is expected that about 50 persons would visit the winery (by appointment only) weekly or about 4 persons during a typical weekday and 15 persons on a typical Saturday or Sunday. The winery's employment is expected to include one full time person and two part time persons during the crush period. There would also be temporary picking crews on-site during the harvest season. Table 1 outlines the winery's expected daily traffic generation on a typical weekday (7 daily trips), a typical Saturday (15 daily trips) and a day during the harvest season (19 daily trips).

1901 Olympic Boulevard • Suite 120 • Walnut Creek, CA 94596 • (925) 935-5014 • FAX (925) 935-2247

FIGURE 6

b. Traffic and Site Access Design Issues

If it is conservatively assumed that 20% of the winery's daily trips are generated during a peak hour, the typical weekday or Saturday peak hour would experience 2-3 winery related vehicle trips. This level of traffic would be very low relative to the background traffic flows on Deer Park Road.

The primary traffic design issue would be the potential need for a left-turn lane at the site access. Standards for left-turn lanes relate to the left-turn volume conflicting with the volume of opposing through traffic. Napa County has adopted a warrant methodology based on daily traffic volumes on the highway and daily traffic volumes on the access road or driveway.[3] As noted in this report (based on Napa County counts), the daily volume on Deer Park Road is 5,670 vehicles in the vicinity of the project site. Although the County's left turn lane graph displays a maximum roadway volume of 5,000 daily vehicles, the left turn lane requirements can be extrapolated beyond the 5,670 daily vehicle level on Deer Park Road. As shown on the attached graph, the weekday and Saturday volumes in/out of the proposed winery would be at about 25% and 55% of the minimum levels at which a left-turn lane would be warranted. The volumes during a harvest season day (during about 6 weeks of the year) would be at about 70% of the minimum levels at which a left-turn lane would be warranted. As such, even under maximum traffic conditions, the traffic associated with the proposed winery does not meet the County's threshold for a left turn lane warrant. It is noted that a left turn lane in this section of Deer Park Road would result in significant grading impacts, including extensive grading into slopes greater than 50% and/or the creation of extensive fill slopes. In recognition of the unique project setting, the proposed winery has been designed with a low production volume and very limited visitor program to avoid the impacts associated with a larger winery project.

Although Deer Park Road is a County highway, consideration has also been given to the Caltrans left turn lane warrant methodology.[4] This methodology is based on peak hour volumes and uses the actual directional traffic flows on the main highway as well as the left turn volume into the side street or driveway. With a daily volume of 5,670 vehicles, it has been assumed that the peak hour volume would be about 10% or 570 vehicles. With a conservative assumption that the flows are 60% in the peak direction, the peak hour directional volume estimates have been plotted on the attached Caltrans left turn warrant. As indicated, the two way peak hour volumes would require 35 inbound left turns (10% of the total eastbound peak hour volume) to warrant a left turn lane. The proposed winery project would generate a maximum of 19 daily trips (during harvest) of which no more than 1-2 inbound peak hour left turns would be expected. Clearly, the projected winery-related left turns would be well below the Caltrans threshold at which a left turn lane would be warranted.

In addition to evaluating the left turn lane volume warrants, we have reviewed the "sight distance" at the site driveway. The speeds on Deer Park Road in the project vicinity are affected by acute roadway curves to the north and south. The observed speeds along Deer Park Road were 35-45 mph in the vicinity of the site driveway. Caltrans "stopping sight distance" standards indicate that when the roadway has a sustained downgrade of 5% or more, the typical sight distance requirements should be increased by 20%. This standard and an assumed maximum

speed of 45 mph would result in a sight distance requirement to the east of about 435 feet measured along Deer Park Road (the sight distance requirement to the west would be 360 feet).[5] Based on field measurements, the visibility is in excess of 500 feet to the east (uphill) and in excess of 750 feet to the west on Deer Park Road. These distances would exceed the sight distance requirements both uphill and downhill from the proposed winery driveway.

3. Summary and Conclusions

As outlined in the report, the project's trips would add minimally to traffic flows on Deer Park Road. The combination of volumes on Deer Park Road and volumes in/out of the winery would be below Napa County thresholds for installation of a left-turn lane. As a basis of comparison, the expected peak hour volumes would also be well below Caltrans standards for left turn lane installation.

Based on actual field measurements, the sight distances at the project driveway (measured along Deer Park Road) would exceed the Caltrans standard for the observed speeds.

I trust that this study responds to your needs and the requirements of Napa County. Please let me know if there are any questions or if further input is required.

Sincerely,

George Nickelson

George W. Nickelson, P.E.

Attachment: Left Turn Lane Warrant Graphs

References:

(1) Napa County Department of Public Works, traffic counts on Deer Park Road conducted August 2007.

(2) Project information provided by Dr. George Monteverdi, Dickenson, Peatman & Fogarty, April 20, 2009.

(3) Napa County Department of Public Works, *Adopted Road & Street Standards*, Revised August 31, 2004.

(4) Caltrans, *Guidelines for Reconstruction of Intersections*, August 1985.

(5) Caltrans, *Highway Design Manual*, July 1, 2008.

TABLE 1
DAILY TRIP GENERATION FOR
THE PROPOSED WINERY AT #1156 DEER PARK ROAD

Daily Traffic During a Typical Weekday:

• 4 visitors/2.6 per vehicle x 2 one-way trips	=	3 daily trips
• 1 employee x 2 one-way trips per employee	=	2 daily trips
• 1 truck x 2 one-way trips per truck(1)	=	2 daily trips
		7 daily trips

Daily Traffic During a Typical Saturday:

• 15 visitors/2.8 per vehicle x 2 one-way trips	=	11 daily trips
• 1 employee x 2 one-way trips per employee	=	2 daily trips
• 1 truck x 2 one-way trips per truck(1)	=	2 daily trips
		15 daily trips

Daily Traffic During Harvest Season (6 weeks):

• 15 visitors/2.8 per vehicle x 2 one-way trips	=	11 daily trips
• 3 employees x 2 one-way trips per employee	=	6 daily trips
• 1 truck x 2 one-way trips per truck(2)	=	2 daily trips
		19 daily trips

(1) During the 46-week non-harvest season, a maximum of 1 daily truck would be generated related to routine deliveries associated with the winery production (10,000 gallons/2.38 gallons per case = 4,202 cases).

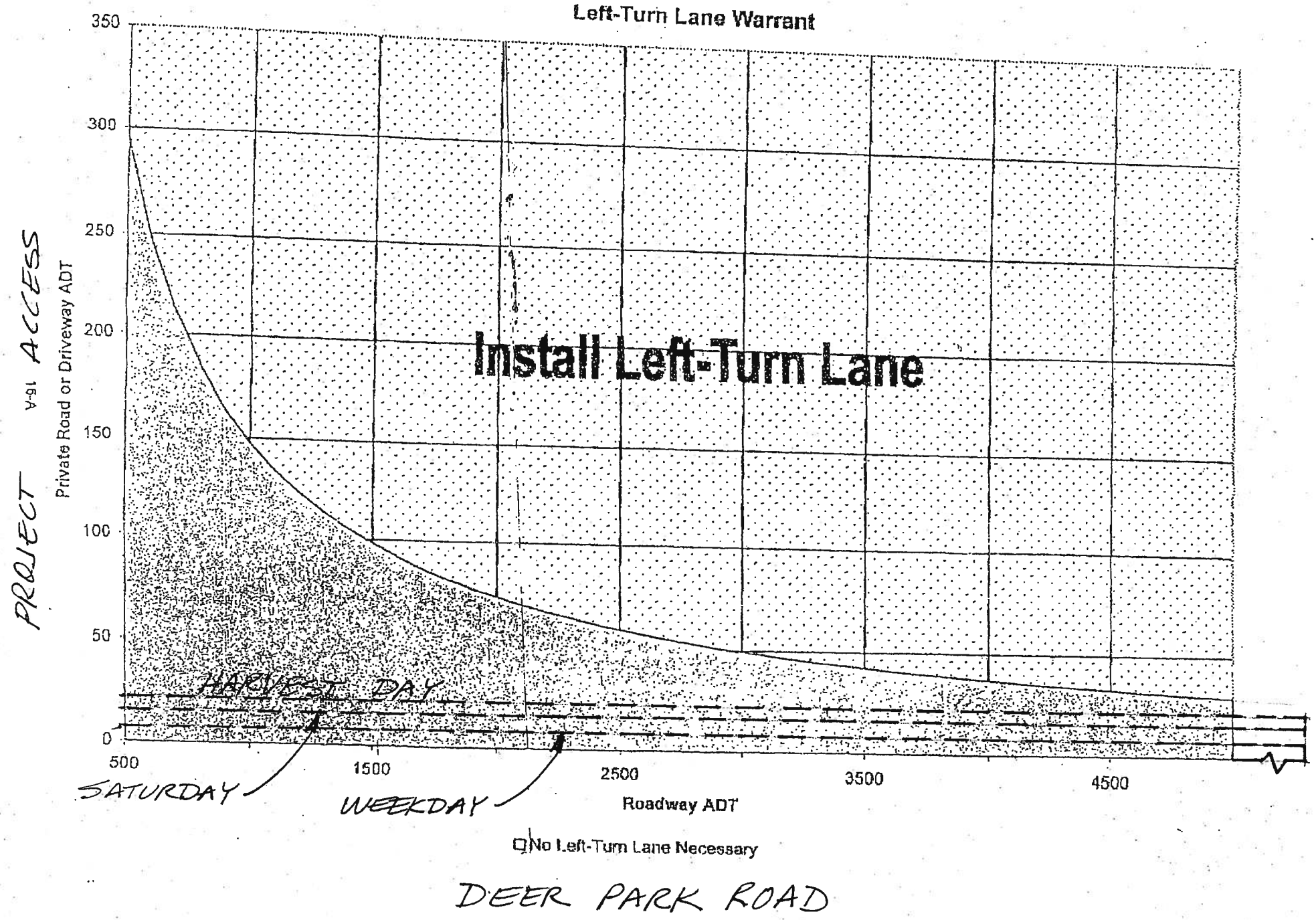
• 4,202 cases/2,310 cases per truck	=	2 glass delivery trucks
• 4,202 cases/1,232 cases per truck	=	4 wine shipment trucks
• 2 miscellaneous weekly deliveries	=	92 miscellaneous trucks
		98 annual trucks

98 trucks/46 weeks = 2-3 weekly trucks or a maximum of 1 truck per day.

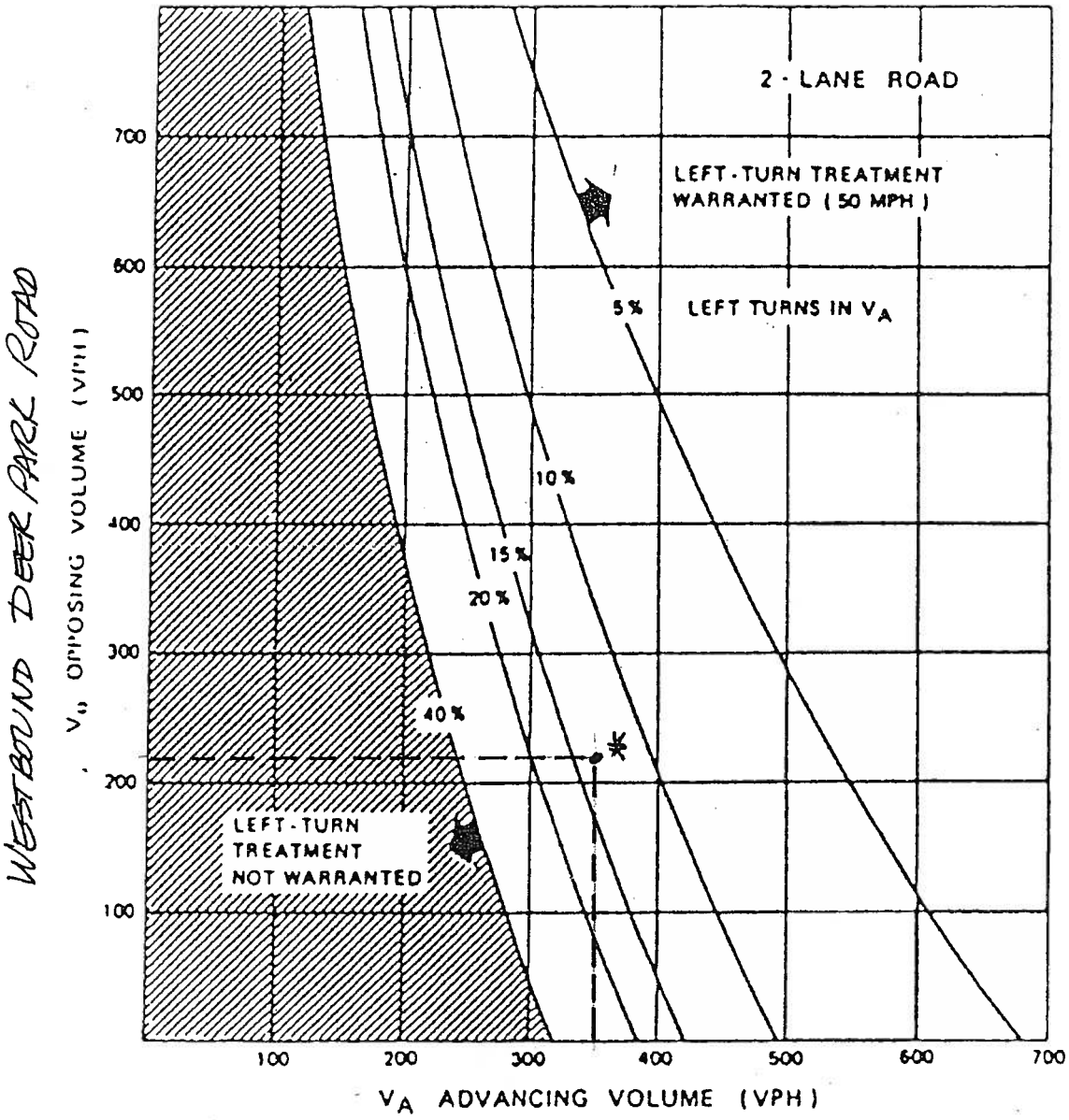
(2) During the 6-week harvest season, there would be an increase of 1 weekly grape delivery truck, calculated as follows:

• 30 tons (5,000 gallons) of off-site grapes/5 tons per truck/6 weeks = 1 truck/week.

This one additional weekly truck would not measurably affect the projected typical daily projection of one daily truck.


Left-Turn Lane Warrant
350
300
250
200
150
100
50
0
Private Road or Driveway ADT
Install Left-Turn Lane
HARVEST DAY
SATURDAY
WEEKDAY
500
1500
2500
3500
4500
Roadway ADT
No Left-Turn Lane Necessary
PROJECT ACCESS
A-91 16-A
DEER PARK ROAD

WESTBOUND DEER PARK ROAD



EASTBOUND DEER PARK ROAD

* ASSUMES 570 PEAK HOUR VEHICLES WITH 350 (60%) EASTBOUND AND 220 (40%) WESTBOUND.

George W. Nickelson, P.E.

Traffic Engineering • Transportation Planning

December 18, 2009

Mr. Thomas F. Carey
Attorney at Law
Dickenson, Peatman & Fogarty
809 Coombs Street
Napa, CA 94559

Subject: ***Supplemental Traffic Information for a Proposed Winery at #1156 Deer Park Road in Napa County***

Dear Mr. Carey:

This letter provides supplemental traffic information relative to the proposed winery at #1156 Deer Park Road in Napa County. Our October 29, 2009 traffic impact analysis for the winery had focused on the typical daily (weekday and weekend) activities that would affect traffic flows. Because a small number of winery marketing events were contemplated, their traffic effects would be very limited and were not included in our original study. In this supplemental report, we have outlined the traffic characteristics of potential marketing events that the winery could have during any given year. This supplemental information reflects my discussions with George Monteverdi of your office.[1]

We have also identified construction traffic levels associated with vineyard development and cave excavation. Although these activities would be temporary, their traffic effects have been assessed.

Description of Winery Events:

Although no specific schedule has been established for this proposed winery, events at the Vineyard 22, LLC Winery would be small in scope and consistent with Napa County standards for small wineries. These standards stipulate that small wineries (i.e., wineries categorically exempt from CEQA) are limited to "10 marketing events per year, each with no more than 30 attendees, except for one wine auction event with up to 100 persons in attendance." It is noted that on event days, there would be no public visitation at the winery – the only visitors would be those attending the event.

Event Day Traffic Generation:

As outlined in Table 1, smaller marketing events would generate an estimated 29 daily trips, assuming a standard vehicle occupancy factor. This trip total would be somewhat higher than the "harvest day" trip estimate in the original traffic report, but the very limited nature of these events (not more than nine times annually) would not significantly affect traffic flows. Further,

the potential smaller events would likely involve a specific guest list, potentially resulting in greater ride-sharing and a reduction in the actual trip estimate.

An annual event contemporaneous with the Napa Valley Wine Auction event would utilize a contracted shuttle bus service to/from an off-site parking location such as Pacific Union College. As a result, the "Wine Auction" event would only generate 22 daily vehicle trips in/out of the winery driveway. This once-per-year activity would not significantly affect traffic flows on Deer Park Road.

Construction Traffic:

The project would involve two phases of construction, vineyard development and cave excavation.[2] Vineyard development would occur over a 6-month period and would include grading and planting. The subsequent cave excavation process would occur over one year and would involve trucks hauling away cave spoils.

Vineyard development would involve an average of 12 daily employees generating daily traffic as follows:

- 12 employees/2 persons per vehicle x 2 one-way trips = 12 daily trips

The 12 daily trips would be in the range (7-15 daily trips) of traffic that would be generated by the winery's expected ongoing operations. As outlined in our original traffic analysis, this level of activity would not significantly affect traffic operations on Deer Park Road.

Cave excavation would generate about 27 daily trips (over a one-year period), calculated as follows:

12,500 c.y./8 c.y. per truck/240 days x 2 one-way trips	=	13 daily trips
6 employees x 2 one-way trips	=	12 daily trips
1 concrete truck x 2 one-way trips	=	2 daily trips
		27 daily trips

This level of traffic would somewhat exceed the range identified in the original traffic report. However, the frequency of truck activity (less than one truck per hour) and its temporary nature would not be expected to measurably affect traffic operations on Deer Park Road.

Conclusions:

As outlined above, smaller winery marketing events (not more than nine times annually) would not significantly affect traffic flows on Deer Park Road. If the winery used a small van to shuttle guests from an off-site parking location, the daily site traffic for an event would be reduced to levels comparable to a typical Saturday or harvest day.

A once-annual wine auction event (with shuttle service to/from off-site parking) would generate traffic in/out of the site at a level comparable to typical harvest day traffic. As such, traffic flows on Deer Park Road would not be significantly affected.

With regard to the temporary construction traffic, daily traffic generation would also be comparable to typical daily traffic levels of the completed winery. Although no significant traffic effects are anticipated, it is suggested that during the cave excavation process, appropriate signing be placed on Deer Park Road alerting motorists to the truck activity.

I trust that this supplemental traffic analysis responds to your needs and the requirements of Napa County. Please let me know if there are any questions or if further input is required.

Sincerely,

George Nickelson

George W. Nickelson, P.E.

References:

(1) Mr. George Monteverdi, Dickenson, Peatman & Fogarty, e-mail correspondence, December 4, 2009.

(2) Mr. Mike Muelrath, Applied Civil Engineering, e-mail correspondence, December 16, 2009.

TABLE 1
EVENT DAY TRIP GENERATION FOR
THE PROPOSED WINERY AT #1156 DEER PARK ROAD

Daily Traffic During a Small Event (up to nine times annually):		
• 30 visitors/2.8 per vehicle x 2 one-way trips[(1)]	=	21 daily trips
• 3 employees x 2 one-way trips per employee	=	6 daily trips
• 1 truck x 2 one-way trips per truck	=	2 daily trips
		29 daily trips
Daily Traffic During an Annual Wine Auction Event:		
• 100 visitors/20 per vehicle x 2 one-way trips	=	10 daily trips
• 5 employees x 2 one-way trips per employee	=	10 daily trips
• 1 truck x 2 one-way trips per truck	=	2 daily trips
		22 daily trips

(1) If a van were used to shuttle visitors to/from an off-site parking location, an estimated 10 visitor trips would be generated (30 visitors/6 per vehicle x 2), and the total daily traffic would be reduced to 18 trips.

Title 18 ZONING*

Chapter 18.108 CONSERVATION REGULATIONS

18.108.135 Oversight and operation.

A. Installation Oversight. The qualified professional preparing an erosion control plan shall oversee its implementation. Prior to the first winter rains after construction begins and each year thereafter until the project has received a final inspection from the county or its agent and been found complete, the qualified professional shall inspect the site and certify in writing to the director that all of the erosion control measures required at that stage of development have been installed in conformance with the plan and related specifications.

B. Maintenance. The property owner is responsible for insuring that the erosion control measures installed operate properly and are effective in reducing to a minimum erosion and related sedimentation. The property owner shall either personally or have personnel inspect and repair/clean as necessary the erosion control measures installed at least weekly during the period between October 1st and April 1st of each year. Moreover, the property owner shall either be onsite him/herself or have personnel on site as required when it is raining to inspect the erosion control measures present and take those actions necessary to keep them functioning properly.

C. Monitoring. For projects disturbing more than one acre of land or with an average slope greater than fifteen percent, the property owner shall implement, prior to the first winter rains after installation of the planned facilities is commenced, a permanent, on-going program of self-monitoring of ground cover condition, and erosion control facility operation. The ground cover monitoring shall follow the procedures promulgated by the National Resource Conservation Service (NRCS, formerly the SCS) for determining rangeland condition for hydrologic assessment.

For projects involving disturbance of more than forty acres of land or containing areas with slopes greater than thirty percent totaling a quarter acre or more, an Annual Erosion Control Plan Operation Status Report specifying ground cover condition and how the erosion control measures involved are operating shall be provided to the director and, if in a sensitive domestic water supply drainage, the owner/operator(s) of any public-serving drinking water supply reservoir present by September 1st of each year. This report shall specify the proposed management and cultural measures to be used the following year to return or maintain the ground cover in good condition in all parts of the area disturbed including vineyard avenues and any remedial actions that will be taken to get the other erosion control measures present to operate in such a manner as to minimize erosion and resultant sedimentation.

D. Failures. The following provisions shall apply where erosion control measures have failed or are in imminent danger of failing.

1. Property Owner Duties—Temporary Measures. The property owner shall:

a. Notify the director in writing of the failure or pending failure of any erosion control measures within twenty-four hours of discovery and indicate the temporary measures taken to stabilize the situation;

b. Modify, within twenty-four hours of the time that they receive comments from the independent engineer hired by the county to review the adequacy of these temporary measures, the temporary measures In the manner deemed necessary by the property owner's engineer so as to make them adequate to prevent further damage and problems;

2. Property Owner Duties—Permanent Remedial Measures. The property owner shall:

a. Submit within ninety-six hours after the discovery of a failure or pending failure:

i. An engineered plan for the remedial measures necessary to permanently correct the problem and an engineer's estimate of the cost thereof, and

ii. A plan for cleanup of the damage done with an engineer's estimate for the cost of this work;

b. Resubmit to the county, within forty-eight hours of the time comments are received from the independent engineer hired by the county to review the temporary measures installed, the plan, and engineer's cost estimates revised plans and estimates;

c. Pay the county the costs of this review within forty-eight hours of demand;

d. Post a security in one of the forms specified by subsection (A)(1) through (4) of Section

Figure 7

17.38.030 in the amount equal to one hundred percent of the accepted estimated total cost to do the work required to correct the situation and cleanup the damage done within forty-eight hours of demand; and

e. Insure that the revised plan prepared is fully implemented within ninety-six hours of its approval.

The time frames specified in this subsection are maximums. The director may in the case of an immediate threat to public health and/or safety require performance in shorter time periods.

3. Plan Preparer Duties. The plan preparer shall provide a notice to the county within twenty-four hours of full implementation of the plan prepared to permanently correct the problem certifying that the measures shown have been installed in conformance with said plan and related specifications.

4. Noncompliance. Failure to adhere to the provisions of subsections (D)(1) and (2) above may be considered a threat to public health and safety. The director may in such instances take immediate action without further notice or hearing to remedy the situation and bill the property owner for the remedial work done. The director shall keep an itemized account of the costs incurred in remedying the situation. The board shall conduct a hearing on the costs in accordance with Sections 1.20.090 through 1.20.130 of this code and shall give the property owner an opportunity to object to the costs prior to recording a lien against the property or pursuing other cost-recovery actions.

E. Inspection.

1. Each project requiring an erosion control plan that has not received a final inspection and been found complete by the director or his/her agent shall be inspected by the county or its agent after the first major storm event of each winter until the project has been completed and stable for three years. If it is found that the erosion control program implemented is not functioning properly or is ineffective the property owner shall take such remedial measures as the director deems necessary to reduce erosion and related sedimentation to minimal levels. The full costs of said measures and the related inspections shall be borne by the property owner.

2. Five percent of projects that have received a final inspection and been found complete by the director or his/her agent shall be spot checked by the director or his/her agent each year to confirm groundcover condition and the proper operation of other erosion control measures. The director, in cooperation with the Napa County Resource Conservation District (RCD) and other county departments and agencies, will develop a remedial program to address any deficiencies that may be identified as the result of these spot checks. The property owner shall implement this program, which may include re-seeding all or some portions of the site or changing agricultural or management practices. He/she shall pay all costs associated with these spot-checks.

F. Right of Entry. With the property owner's consent, with a warrant, or in an emergency, the property owner shall give the director and his/her agents full and complete access to and throughout the project area so as to allow:

1. Inspection of the erosion control and any remedial measures installed there to insure that they are functioning properly,

2. The making of necessary repairs or corrections to alleviate an erosion control problem or potential erosion control problem, or

3. The performance of needed maintenance.

(Ord. 1219 § 4, 2003)

RECEIVED

JUN 03 2010

NAPA CO. CONSERVATION
DEVELOPMENT & PLANNING DEPT.

PROJECT REVISION STATEMENT
TFC – Vineyard 22 LLC
Agricultural Erosion Control Plan #P09-00365-ECPA and
Use Permits #P10-000034-UP, #P10-00180-UP, and #P10-00181-VIEW

I hereby revise Agricultural Erosion Control Plan #P09-00465-ECPA for TFC Vineyard 22 LLC, to convert to vineyard up to ±9.7-acres (±6.2 net vine acres) of existing chaparral, coast live oak woodland, and annual grassland and Use Permits #P10-00034-UP, #P10-00180-UP, and #P10-00181-VIEW for TFC Vineyard 22 LLC, to develop a 10,000 gallon winery within a 22.61-acre parcel (Assessor's Parcel # 021-420-015) located at 1156 Deer Park Road to include the 5 measures specified below:

Measure BR-1: The applicant/owner shall implement the following measures to reduce impacts to Holly-leaf Ceanothus populations located within the subject parcel through the following measures:

a. Prior to any earthmoving activities, temporary fencing shall be installed a minimum of 10 feet from the outer boundary of Holly-leaf Ceanothus plants/populations proposed for retention. The precise locations of the protection fencing shall be inspected and approved by the Planning Division prior to the commencement of any earthmoving activities. No disturbance, including grading, placement of fill material, storage of equipment, etc. shall occur within the designated areas for the duration of erosion control plan installation, vineyard installation and winery related construction. All fencing shall be maintained for the duration of vineyard construction.
b. Wildlife exclusion fencing shall be installed a minimum of 10 feet from Holly-leaf Ceanothus plants/populations to remain.
c. In accordance with County Code Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement) Holly-leaf Ceanothus plants inadvertently removed that are not within the boundary of the project and/or not identified for removal as part of #P09-00465-ECPA shall be replaced on-site at a ratio of 2:1 at locations approved by the planning director. Replant locations will be supported by recommendations of a qualified professional: any replaced Holly-leaf Ceanothus shall have a 100% survival rate.

Measure BR-2: The applicant/owner shall implement the following measures to reduce impacts to the habitat/woodland area located in the central portion of the subject parcel by enhancing the connections to off-site habitats, through the following means:

a. Replace trees removed within the central woodland habitat area at a 2:1 ratio. Replacement trees shall be located within the connections/wildlife corridors leading from this on-site woodland habitat to the woodlands located to the northeast and east. Replacement trees shall have a 100% survival rate. Prior to approval of #P09-00465-ECPA by the County the owner/applicant shall provide a re-planting plan in accordance with **Measure BR-2a** for incorporation into #P09-00465-ECPA.
b. In accordance with County Code Section 18.108.100 (Erosion hazard areas – Vegetation preservation and replacement) trees inadvertently removed that are not within the boundary of the project and/or not identified for removal as part of #P09-00465-ECPA or #P10-00034-UP shall be replaced on-site at a ratio of 2:1. Replant locations will be within the connections/wildlife corridors as identified in **Mitigation Measure BR-2a**: any replaced tree shall have a 100% survival rate.

Measure HHM-1: The applicant/owner shall implement the following measures to reduce potential environmental and public safety impacts due to upset and accident conditions that could occur during development activities of either the vineyard project or the winery project:

a. Submit a safety plan, prepared by a qualified professional (such as an engineer, geologist, engineering geologist), for review and approval by the county prior to initiation of grading activities of either the vineyard project or winery project, which address potential public safety impacts due the grading, earthmoving activities and stockpiling of earthen materials. Safety measures include, but are not limited to, installation of temporary physical barriers and temporary storage of rock within in flatter portions and/or lower elevations of the development areas (such as Vineyard Blocks 2 and 6 and the western end of Block 1). Safety measures identified in the safety plan shall be installed in accordance with the approved safety plan and inspected by the county prior to initiation of grading activities of either the vineyard project or the winery project.

b. Rock generated during the construction of either the vineyard or winery shall be temporarily stored within development areas (i.e. vineyard blocks and winery site) until it can be utilized in the construction of erosion control measures and for road surfacing, or removed offsite subject to applicable permit(s).

Measure HWQ-1: The applicant/owner shall implement the following measures so that peak runoff of the 2-, 20-, 50-, and 100-year storm events of the winery development is not greater than pre- project conditions:

a. Revise the design of the proposed detention facility for the winery to accommodate the specified storm events prior to issuance of building permits for the winery. The revised detention facility shall be submitted to the Department of Public Works as part of the improvement plan review process for the winery.
b. Provide pre and post project hydrologic calculations for specified storm events along with the revised winery detention facility design specified in Mitigation Measure HWQ-1a for review by the Public Works Department that demonstrate no net increase in peak runoff flows above existing (pre-project) conditions as a result of winery development.

TFC – Vineyard 22 LLC further commits itself and successors-in-interest to (a) inform any future purchasers of the property of the above commitments; (b) include in all property leases a provision that informs the lessee of these restrictions and binds them to adhere to them, and (c) inform in writing all persons doing work on this property of these limitations.

TFC – Vineyard 22 LLC understands and explicitly agrees that with regards to all CEQA and Permit Streamlining Act (Government Code Sections 63920-63962) deadlines, this revised application will be treated as a new project. The new date on which said application will be considered complete is the date on which an executed copy of this project revision statement is received by the Napa Co Conservation, Development and Planning Department.

Thomas F Carey
(Manager)

6/3/10
Date

Conservation, Development and Planning

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Hillary Gitelman
Director

A Tradition of Stewardship
A Commitment to Service

TO: Application File #P09-00465-ECPA

FROM: Donald Barrella, Planner III

DATE: July 28, 2010

RE: Response to Comments on the TFC – Vineyard 22, Vineyard Conversion
File# P09-00465-ECPA: SCH# 20008012010: APN: 021-420-015

INTRODUCTION

This memorandum has been prepared by County staff to respond to comments received by the Napa County Conservation, Development and Planning Department (Napa County) on the Proposed Initial Study/Mitigated Negative Declaration (Proposed IS/MND) for the TFC – Vineyard 22 Vineyard Conversion # P09-00465-ECPA (proposed project). An IS/MND is an informational document prepared by a Lead Agency, in this case, Napa County, that provides environmental analysis for public review and for the agency decision-makers to consider before taking discretionary actions related to any proposed project that may have a significant effect on the environment. The Proposed IS/MND analyzed the impacts resulting from the proposed project and where applicable, identified mitigation measures to minimize the impacts to less-than-significant levels.

This memorandum for the TFC – Vineyard 22 Vineyard Conversion #P09-00465-ECPA and Proposed IS/MND presents the name of the persons and/or organizations commenting on the Proposed IS/MND and responses to the received comments. This memorandum, in combination with the Proposed IS/MND, completes the Final IS/MND.

CEQA PROCESS

In accordance with Section 15073 of the CEQA Guidelines, Napa County submitted the Proposed IS/MND to the State Clearinghouse for a 30-day public review period starting on June 7, 2010. In addition, Napa County circulated a Notice of Intent to Adopt the Proposed IS/MND to interested agencies and individuals. The public review period ended on July 6, 2010. During the public review period, Napa County received five comment letters on the Proposed IS/MND. Table 1 below lists the entities that submitted comments on the Proposed IS/MND during the public review and comment period. The comment letters are attached.

TABLE 1

PERSONS/AGENCIES COMMENTING ON DRAFT IS/MND

Comments Received from	Date Received
Native American Heritage Commission	June 24, 2010
Earth Defense for the Environment Now - Living Rivers Council	July 6,2010
Central Valley Regional Water Quality Control Board	July 9, 2010: after the close of the comment period.

In accordance with CEQA Guidelines Section 15074(b), Napa County considers the Proposed IS/MND together with comments received, both during the public review process and before action on the project, prior to adopting the Proposed IS/MND and rendering a decision the project. The CEQA Guidelines do not require the preparation of a response to comments for negative declarations; however, this memorandum responds to comments received. Based on review of the comments received, no new, potentially significant impacts beyond those identified in the Proposed IS/MND would occur, no mitigation measures or project revisions must be added to reduce impacts to a less than significant level and none of the grounds for recirculation of the Proposed IS/MND as specified in State CEQA Guidelines Section 15073.5 have been identified. All potential impacts identified in the Proposed IS/MND were determined to be less-than-significant.

RESPONSE TO COMMENTS

Native American Heritage Commission (Attachment 1)

Response to Comment #1: In accordance with the Napa County Cultural Resource Survey guidelines, Archaeological Services, Inc. contacted the Northwest Information Center at Sonoma State University requesting a record search (08-1401) of all recorded cultural resources within the study area and vicinity. Following the record search, Archaeological Services, Inc. conducted a field reconnaissance on May 28, 2009 to verify the record search, which no archaeological or ethnographic sites had been recorded. The study area totaled ±22.61acres within the parcel, including the proposed development areas and immediate vicinity. According to the Cultural Resource Reconnaissance Report, no cultural resources were observed or discovered within the subject parcel that would require additional mitigation. As discussed in Section V of the IS/MND (Cultural Resources), standard conditions have been identified and will be incorporated as conditions of approval on the project(s), which outline measures to be taken in the field in the event that previously undiscovered cultural resources are unearthed, these conditions include following provisions:

1) In accordance with CEQA Subsection 15064.5(f), should any previously unknown historic or prehistoric resources, including but not limited to charcoal, obsidian or chert flakes, grinding bowls, shell fragments, bone, pockets of dark, friable solids, glass, metal, ceramics, wood or similar debris, be discovered during grading, trenching or other on-site excavation(s), earth work within 100-feet of these materials shall be stopped until a professional archaeologist certified by the Registry of Professional Archaeologists (RPA) has had an opportunity to evaluate the significance of the find and suggest appropriate mitigation(s), as determined necessary.
2) If human remains are encountered the Napa County Coroner shall be informed to determine if an investigation of the cause of death is required and/or if the remains are of Native American origin. Pursuant to Public Resources Code Section 5097.98, if such remains are of Native American origin the nearest tribal relatives as determined by the State Native American Heritage Commission will be contacted to obtain recommendations for treating or removal of such remains, including grave goods, with appropriate dignity.
3) In the event that a discovery of a breas, true, and/or trace fossils are discovered during ground disturbing activities, all work within 100 feet of the fined shall be temporarily halted of diverted until the discovery is examined by a qualified paleontologist. The paleontologist shall notify the appropriate agencies to determine procedures that should be followed before ground disturbing activities are allowed to resume at the location of the find.
4) All persons working on-site shall be bound by contract and instructed in the field to adhere to these provisions and restrictions.

Earth Defense for the Environment Now (EDEN) – Living Rivers Council (Attachment 2)

Response to Comment #1: As noted in Attachment A "Supplemental Project Information "[1] of the application, fertilizers will be applied via the drip irrigation system; therefore, fertilizers will be focused on the vines. As noted in other Activities and Features of the Project Description (Page 1 of the IS/MND) and within the Erosion Control Plan Narrative the entire vineyard will be hand farmed; therefore, herbicides will be spot sprayed and pesticides will be applied manually (i.e. by hand held sprayers) rather than broadcast sprayed. Therefore, herbicides and pesticides would be focused on the vines thereby minimizing air borne chemicals and substantially reducing (if not eliminating) the possibility of offsite migration. Mildewcides would be sprayed in the early morning hours to minimize drift as opposed to evening hours.

Response to Comment #2: As discussed in Section III (Air Quality) of the IS/MND the clearing off vegetation and installation of vineyard and winery development would result in the release of carbon dioxide into the atmosphere. Grapevines and cover crops are photosynthetic plants that have value in terms of carbon capture. Additionally, the use of a permanent no-till cover crop (as proposed by the project), as well as vineyard management practices which limit the amount of organic matter input through harvest and herbicide application tend to result in less soil CO_2 loss from vineyard soils than from some oak woodland soils[2]. As noted in the IS/MND, at the time of preparation of the IS/MND, specific information on the rate of grapevine and cover crop sequestration was lacking; however based on Carlisle's report[2] the sequestration of vineyards with permanent cover crops is anticipated to be somewhat comparable to some oak woodlands. As discussed in Section IV (Biological Resources) the vineyard and winery development would result the removal of ±0.9-acres of oak woodland containing 56 trees and the retention of approximately 4.8-acres (or 86%) of the parcels woodlands containing approximately 340 trees. Additionally, with the implementation of **Mitigation Measure BR-2**, 16 replacement trees would be planted. Therefore, the proposed developments which convert less than 1-acre of oak woodland (containing 56 trees) and include the development of 9.7-acres of vineyard, in conjunction with the planting of 16 trees, is anticipated to result in similar rates of sequestration as compared to existing conditions.

As discussed in Section III (Air Quality) of the IS/MND a significant impact with respect to climate change was not identified, therefore, no mitigation was necessary.

Response to Comment #3: Based on the County's 1993 aerial photographs of the site, it does not appear that vegetation has been removed. The IS/MND accurately discloses site conditions and potential impacts of the proposed vineyard and winery developments relative to the baseline conditions.

Response to Comment #4: As discussed in Section IV.e (Biological Resources) the vineyard and winery developments would result the removal of ±0.9-acres of oak woodland containing 56 trees and the retention of approximately 4.8-acres (or 86%) of the parcels woodlands containing approximately 340 trees. No significant impacts related to oak woodland removal were identified as a result of the proposed projects, therefore no mitigation was necessary (Also see RTC #2 regarding tree replacement).

Response to Comment #5: The Universal Soil Loss Equation (USLE) model evaluates the environmental conditions and physical forces that lead to the detachment and movement of soil particles, it does not describe travel distances of soil particles once dislodged or sediment delivery. Additionally, the USLE model does not contain sediment transport factors. Sediment entrainment and delivery are different physical processes; ratios of soil loss to sediment delivery vary considerably depending on conditions and are not assumed to be equal.

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[1] Application Materials and associated background information are on file and available for review at the Napa County Conservation, Development and Planning Department.

[2] See Carlisle et al., Effects of Land Use on Soil Respiration: Conversion of Oak Woodlands to Vineyards, *J. Environ Qual.*2006; 35: 1396-1404. Pierce, D.L., Steenwerth, K.L., Harris, D., Smart, D.R. 2005. Vineyard management methods for carbon sequestration in soil: a stable isotope approach. Soil Science Society of America Annual Meeting. Carlisle, Eli A. etal., The Influence of Land Conversion on Carbon Mineralization and CO2 Emissions from Vineyard and Adjacent Oak Woodland in the Napa Valley, Department of Viticulture and Enology, University of California, Davis.

Response to Comment #6: As indicated in the project description of the winery development and in Section III (Air Quality) of the IS/MND, cave spoils will be hauled offsite. The exact location of offsite spoils disposal, associated with wine cave development, is not known at this time however offsite deposition of cave spoils will be required to comply with applicable County requirements.

Response to Comment #7: As discussed in Section VI (Geology and Soils) of the IS/MND, predicted soil loss under pre-project condition of the winery is 7.7 tons per acre, under post project conditions it is anticipated to be 7.2 tons per acre, a decrease of approximately 0.5 tons per acre as compared to existing conditions; thereby reducing the potential for off-site sedimentation. Additionally, the implementation of **Mitigation Measure HWQ-1** (Section VIII Hydrology and Water Quality) will require the owner/applicant to implement detention measures to ensure that peak runoff of the 2-, 20-, 50-, and 100 year storm events following development are not greater than pre-project conditions, and therefore existing storm drain systems would be adequate in accommodating runoff from the site. Typically, storm drain facilities installed by the County are designed to accommodate the 2 year 24 hour storm event.

Response to Comment #8: As Discussed in Section VI (Geology and Soils) of the IS/MND predicted soil loss and associated soil erosion and sedimentation of both the vineyard development project and winery development project are anticipated to be reduced as compared to existing conditions. As discussed in Section VIII (Hydrology and Water Quality) the vineyard development would decrease peak runoff flow rates as compared to existing conditions and the winery development project would be subject to **Mitigation Measure HWQ-1**, which will require the owner/applicant to implement measures to ensure that peak runoff of the 2-, 20-, 50-, and 100 year storm events following development are not greater than pre-project conditions. As discussed in section XVII (Mandatory Findings of Significance) of the IS/MND the proposed vineyard development project would not result in increases in soil loss, sedimentation, or runoff, resulting in less than significant impacts related to soil loss or sediment production either on a project level or cumulative basis. The proposed winery development project, with the incorporation of **Mitigation Measure HWQ-1**, would not result in increases in soil loss, sedimentation, or runoff, resulting in less than significant impacts related to soil loss or sediment production either on a project level or cumulative basis.

Response to Comment #9: It is commented that under CEQA, an Environmental Impact Report (EIR) is required based on substantial evidence supporting a fair argument that the project will result in significant cumulative impacts due to the loss of tree canopy, increased peak flows, chemical runoff to streams, and carbon sequestration losses. As detailed in these responses to comments and in the IS/MND, the project as proposed with mitigation incorporated would not result in either project level or cumulative significant environmental impacts. Based on this analysis/determination, Napa County (the Lead Agency) prepared a mitigated negative declaration.

Response to Comment #10: The Exhibits attached to EDEN's comment letter are not related to or associated with this project; therefore, no response is necessary.

Central Valley Regional Water Quality Control Board (Attachment 3)

Response to Comment #1: As discussed in Section IV.c (Biological Resources) of the IS/MND and the projects Biological Assessment with Botanical Survey, Delineation of Water of the US, and Tree Analysis (Northwest Biosurvey, October 2009) the subject property does not contain wetlands. As discussed in Section VIII.c-d (Hydrology and Water Quality) alterations to of existing drainage patters as a result of either the vineyard or winery development project would not result in a significant environmental impact. Furthermore, as indentified in the Biological Assessment (Northwest Biosurvey, October 2009) the filling or grading within any of the areas marked as "Water of the US" may require the approval of a Nationwide Permit from The U.S. Army Corps of Engineers (404 Permit), a Water Quality Certification from the Regional Water Quality Control Board (401

Permit), and/or a Stream Alteration Agreement from the Department of Fish and Game (1603 Permit). The owner/applicant is aware of these potential permits and approval of either the vineyard or winery development is contingent on the owner/applicant acquiring any/all other required Local, State and Federal permits necessary to implement either project prior to the commencement of work associated with that project. This provision is included as a condition of approval of the project.

Attachments:

Native American Heritage Commission, comment letter dated June 22, 2010
Earth Defense for the Environment Now – Living Rivers Council, comment letter dated June 27, 2010
Central Valley Regional Water Quality Control Board, comment e-mail dated July 9, 2010

STATE OF CALIFORNIA Arnold Schwarzenegger, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax

June 22, 2010

Donald Barrella
Napa County Conservation Development & Planning Department
1195 Third St, Room 210
Napa, CA 94559-3092

RE: SCH#20008012010 TFC Vineyard 22-Vineyard # P06-01142 ECPA and Winery #P10-00034-UP; Napa County.

Dear Mr. Barrella:

The Native American Heritage Commission has reviewed the Notice of Completion (NOC) regarding the above referenced project. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA guidelines 15064(b)). To adequately comply with this provision and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

- ✓ Contact the appropriate Information Center for a record search to determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check. **Sacred Lands File check completed, no sites indicated.**
  - A list of appropriate Native American Contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
  - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

1

Sincerely,

Katy Sanchez

Katy Sanchez
Program Analyst
(916) 653-4040

CC: State Clearinghouse

Native American Contact List
Napa County
June 22, 2010

Ya-Ka-Ama
7465 Steve Olson Lane
Forestville , CA 95436
info@yakaama.org
(707) 887-1541

Pomo
Coast Miwok
Wappo

Mishewal-Wappo Tribe of Alexander Valley
Scott Gabaldon, Chairperson
PO Box 1794
Middletown , CA 95461
scottg@mishewalwappo.
707-494-9159

Wappo

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources forthe proposed SCH# 2008012010 TFC Vineyard 22-Vineyard#P06-01142 ECPA and Winery #P10-00034-UP: Napa County.

EARTH DEFENSE FOR THE ENVIRONMENT NOW ** LIVING RIVERS COUNCIL
E.D.E.N. L.R.C.
1370 Trancas Ave. West PMB-614, Napa Ca. 94559* 707-255-7434* Fax 707-259-1097

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www.edennapa.org
www.livingriverscouncil.org

Mission Statement: To conserve, protect and defend earth's deep ecology and biodiversity for a sustainable future and high quality of life for all. We will accomplish this through education, advocacy and science.

June 27, 2010

Donald Barrella, Planner III
Napa County Conservation, Development & Planning Department
1195 Third Street, Suite 210
Napa, CA 94559

Re: TFC Vineyard Erosion Control Plan Negative Declaration # PO9-00465-ECPA

III. Air Quality Page 11-12

A. The project will use pesticides, herbicides, and fungicides on the vines. As only about a third of sprayed material actually lands on the intended surface how will the fugitive chemicals be abated from escaping into the air? 1

B. The 2007 United Nations Intergovernmental Panel on climate change concluded that a major cause of global warming was the world wide loss of forests. Removal of forty mature trees in mixed oak woodland would result in a cumulatively significant impact under CEQA definitions. The text says planted vines, "Some of these "new" emissions would be offset by the proposed vineyard…." How much? What is the numerical value between the vines' CO2 and the pre-existing Oaks CO2 sequestering at the project? What viable CO2 mitigation will provide for the same carbon sequestering ability as these forty mature trees that are slated to be removed? Why is their no concrete mitigation for their loss? 2

IV. Biological Resources, Page15:

A. The project will remove 40 mature trees for the planting blocks and 16 mature trees for the winery. Is the area largely bare because of previous tree removal by previous owners? What is the historic tree coverage of the planting blocks so the public can determine significant tree impacts? 3

B. After the cutting of 56 mature trees the mitigation for their loss it to retain some on site residual trees. How can mitigation be made which results in no net trees gain, only a net tree loss? 4

VI. Geology and Soils, Page 19, and Proposed Mitigated negative Declaration, Page

A. Re: "Rock generated from vineyard development would be utilized in the construction of erosion control measures…and access roads." Since the Universal Soil Loss Equation is based on soil type characteristics the removal of a component such as rock will change the sediment transport factor. Redistribution of crushed rock back to the planting blocks will maintain the original soil profile. 5

B. No mention is made of the cave spoils. Since this an integral part of this application for a vineyard and a winery what is the final destination of the residual cave spoils? 6

VIII. Hydrology and Water Quality and Mitigation Measure HWQ-1, Page 25:

The text reads," The subject property is not directly served by a storm water drainage system; however, there are two catch basins and associated culverts that cross under Deer park Road, which outfall in grassland/shrubland on the western side of Deer park Road." Due to the slope and exposure of the site the expected soil loss is 7.2 tons per acre. (VI. Geology and Soils, Page 19) It is twice the natural background sediment flow in Napa County. Is the project planning to be dependant on others to provide an off site sediment catchments? Is so then TFC has not fulfilled its obligation to mitigate sediment on its own property. What is the capacity of the catch basins to what storm event? 7

The Napa River is an impaired watershed under the Clean Water Act on the 303(d) listed for nutrient, sediment and pathogens. This project will increase sediment to the Napa River through sheet flow, off site concentrated flows and bank erosion to nearby streams and the Napa River due to increase peak flows due to natural habitat conversions and deep ripping of native soils. This is a significant cumulative impact not addressed in the Negative Declaration. 8

Due to significant cumulative impacts from: 1.) loss of tree canopy 2) increased rate of peak flows 3) chemical runoff to streams and 4) carbon sequestration losses this requires that an Environmental Impact Report be done on this project. 9

EDEN here in incorporates the comments we submitted on Abrue's conversion to vineyards in the Conn watershed. Please take note of Forester, Tom Gamon's comments regarding ECPA #05.03776 and THP 1.05.212. 10

Chris Malan
John Stephens

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Thomas N. Lippe
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Erin C. Ganahl

April 21, 2010

Submitted by email to: SacramentoPublicComment@fire.ca.gov
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California Department of Forestry and Fire Protection
Environmental Protection - Conversions
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Submitted by email to: santarosapubliccomment@fire.ca.gov
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135 Ridgeway Avenue
Santa Rosa, CA 95401

Re: Abreu Timberland/Vineyard Conversion Project [Timberland Conversion Permit # 554; Timber Harvest Plan # 1-05-212NAP; Erosion Control Plan # P05-03776-ECPA; Mitigated Negative Declaration

Dear Mr. Robertson and Mr. Lukacic:

This office represents Earth Defense for the Environment Now ("EDEN") with respect to the Abreu timberland to vineyard conversion project. I have reviewed the Timber Harvest Plan ("THP"), Timberland Conversion Permit ("TCP"), Erosion Control Plan ("ECP"), and revised Initial Study ("IS") /Mitigated Negative Declaration ("MND") prepared for this project. I write to submit the following comments on EDEN's behalf. EDEN objects to the approval of this project, including the TCP, THP, ECP and MND on the grounds set forth in this letter and my comment letter dated April 3, 2006, including all of its exhibits, all of which are incorporated herein by this reference.

This letter also incorporates by reference the following two letters:

Exhibit 1: Letter dated April 21, 2010 from Dr. Robert Curry of Watershed Systems to Thomas Lippe regarding this project.

Exhibit 2: Letter dated April 20, 2010 from Thomas Gaman, RPF, of East West Forestry Associates, Inc. to Thomas Lippe regarding this project.

These letters demonstrate that substantial evidence supports a fair argument that the Project may have significant environmental effects, including climate change, habitat fragmentation, loss of oak woodlands, and hydrologic and geologic changes leading to cumulatively significant increases in

sediment discharged to Moore Creek, Conn Creek and the Napa River; therefore, preparation of an environmental impact report ("EIR") is required under the California Environmental Quality Act ("CEQA").

Because my April 3, 2006 letter did not address greenhouse gas emissions, I discuss this issue here. The MND underestimates the Project's greenhouse gas (i.e., CO2) emissions. As Mr. Gaman observes, it fails to account for the loss of CO2 sequestration (i..e, emission of sequestered CO2) in the forest cover slated for clearcutting.

Even if we ignore this omission, the MND's conclusion that the Project's greenhouse gas emissions do not represent a significant impact is legally flawed for a number of reasons. The MND's assessment relies on the fact that post-project GHG emissions are projected to be 12% higher than pre-project emissions, as if 12% is somehow less than significant by definition. But the MND ignores the environmental setting, specifically the fact that the Project's greenhouse gases emissions will exacerbate a slowly evolving global catastrophe. As the court said in *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692, 718: "The relevant question to be addressed ... is not the relative amount of precursors emitted by the project when compared with preexisting emissions, but whether any additional amount of precursor emissions should be considered significant in light of the serious nature of the ozone problems in this air basin." In light of the "serious nature" nature of climate change impacts, the conclusion that a 12% increase is by definition "not significant" is unsupportable.

The MND also fails to provide any facts or analysis to support the conclusion that a 12% increase is insignificant. *Santiago County Water Dist. v. County of Orange, supra,* 118 Cal.App.3d at 831 ["The EIR must contain facts and analysis, not just the bare conclusions of a public agency."]

In sum, there is substantial evidence in the record that the Project may have a significant effect on the environment; therefore, the lead agency must prepare an EIR to assess the nature and extent of this impact and to identify mitigation measures and alternatives that might feasibly and substantially reduce this impact.

Thank you for your attention to this matter.

Very truly yours,

Thomas N. Lippe

cc: Client
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EXHIBIT 1

Watershed Systems
Hydrology - Geology - Soil Science

Robert Curry, Ph.D., P.G.
600 Twin Lanes, Soquel, Calif. 95073
831 426-6131; curry@ucsc.edu
field: 760 932-7700

April 21, 2010

Thomas N. Lippe
Lippe, Gafney & Wagner
329 Bryant Street, Suite 3D
San Francisco, CA 94107

Re: Abreu Comments: Re Rebuttal of Jackson's March 30, 2006 Comments in the Recirculated Mitigated Negative Declaration (MND) – as prepared by Martin Trso in November 2007, and dated December 2009 by CDF stamp on each page.

The Trso Report is titled: **Erosion, Sedimentation and Hydrologic Assessment, Abreu Vineyard Conversion TCP#554/THP #1-05-212 NAP05-03776-ECPA, Napa County, California**

In my opinion there are two primary areas where the Trso response does not adequately respond to Mr. Jackson's valid points. These are 1 & 2 below:

1) Differing interpretations of the implications of the observed accumulations of pine-needles along fence lines. Do these features indicate surface water sheet flow as Jackson suggests or do they result from wind as Trso suggests? The implications of Jackson's interpretation are that the modeling done by Trso (2007) and Napa Valley Vineyard Engineering (2005) underestimate the runoff from the proposed vineyard conversions because they used custom rainfall intensity data that cannot be traced to the readily available Angwin Parrott Field data from the immediately adjacent site and misinterpret the source of surface debris accumulations.
2) Lack of response by Trso to Jackson's observation that the headwater gullies that exist in the watercourses draining the hilltop vineyard conversion sites indicate the presence of exfiltration of stormflow from the soils beneath the proposed vineyard blocks to become surface flow. In other words, the water that Trso expects to infiltrate into the ground passes down to the shallow bedrock contact and then runs out on the surface in the headward-cutting drainage swales. This becomes a source of sediment to be carried to Conn Creek that Trso did not recognize.

Trso does not rebut Jacksons' observation that well interference may occur and that testing should be done to evaluate well draw-down. Jackson further questions design

capacities of erosion control structures. These were not addressed adequately if at all in the revised MND.

Needle Dams:

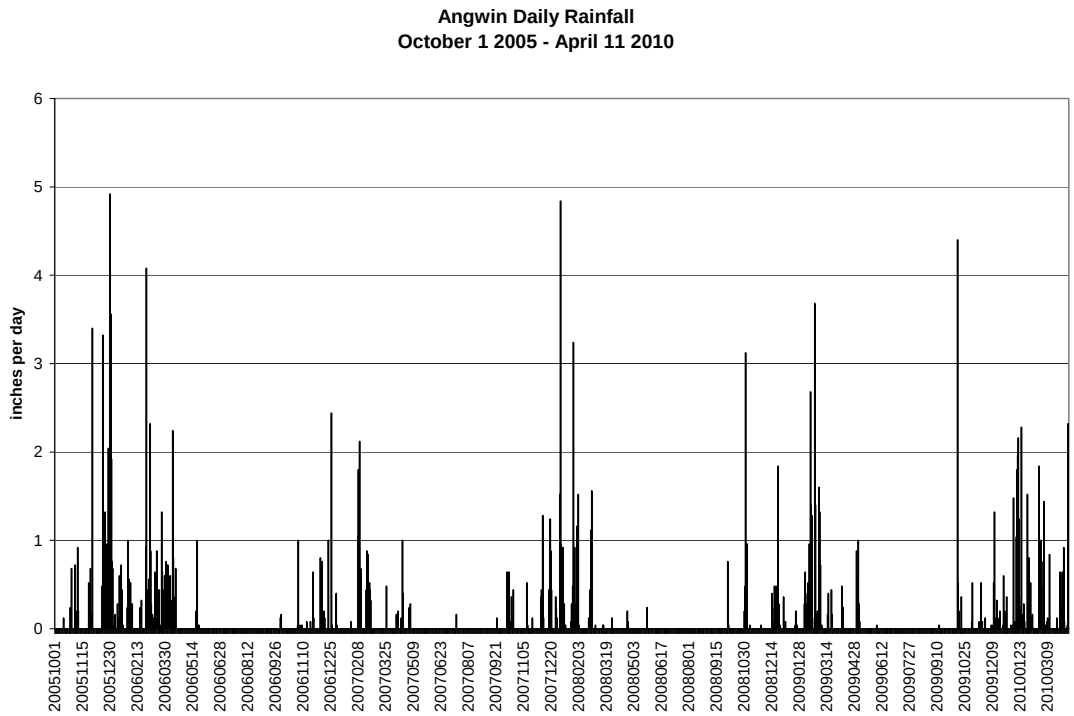
The first issue is related to indications of substantial sheet flow at the hilltop: Both Trso and Jackson address the presence of sheet-flow and its potential for substantial erosion and movement of soil. The proposed vineyard conversion will remove conifer tree canopy and thus increase winter rainfall intensity at ground level. Trso considers that this impact will be minimal because the changed conditions in the vineyard blocks will be averaged with reduced erosion from non-vineyard areas within the Abreu properties and no evidence of connectivity between hilltop sheet flow runoff and the several ephemeral watercourses that drain the proposed vineyard blocks

.

Jackson recognized that the pine needles banked against the perimeter fence on the west side of the hilltop may have resulted from high-intensity rainfall that exceeded the infiltration capacity of the shallow hill-top soils. Trso noted this too but dismisses Jackson's interpretation and suggests that wind is a more likely agent to explain the distribution of pine needles against the fence. Jackson also photographed needle and straw dams along the south Block C fence line, with clear evidence of associated fluvial soil erosion.

The significance of Jackson's observation (see his Photo 4 in his March 30, 2006 report) is that the last major storm of Dec. 30-31 at that site (as recorded immediately adjacent to the hilltop at the south end of the airport runway) exceeded the site infiltration capacity and created surface runoff. The hourly rainfall record for the Angwin recording rain gage indicate that 4.92 inches of rain was recorded for December 30 and 3.56 inches on the 31st of 2005 for a total of 8.48 inches. As Jackson shows with his plots of that rain-gauge record, the December, 2005, storm was not an isolated incident. There was nearly that much rainfall in a single day in 1995, with a two-day total of nearly 11 inches in January of that year (see Jackson's Fig 7).

The following is a plot of the last 5 water-years of available daily data. From it we can see that the December 2005 daily total of 4.92 inches is not unusual with 4.84 inches Jan 4, 2008 and 4.4 inches October 13 2009.



For this hilltop site with shallow soils, saturation can be expected during short-period high-intensity rainfalls of less than 24-hours duration. Thus it is the hourly rainfall data that should have been the basis for analysis by Trso to prepare the estimates of historic rainfall upon which the runoff and erosion susceptibility of this site was based. Insufficient data are presented to trace Trso's analyses or to evaluate its accuracy.

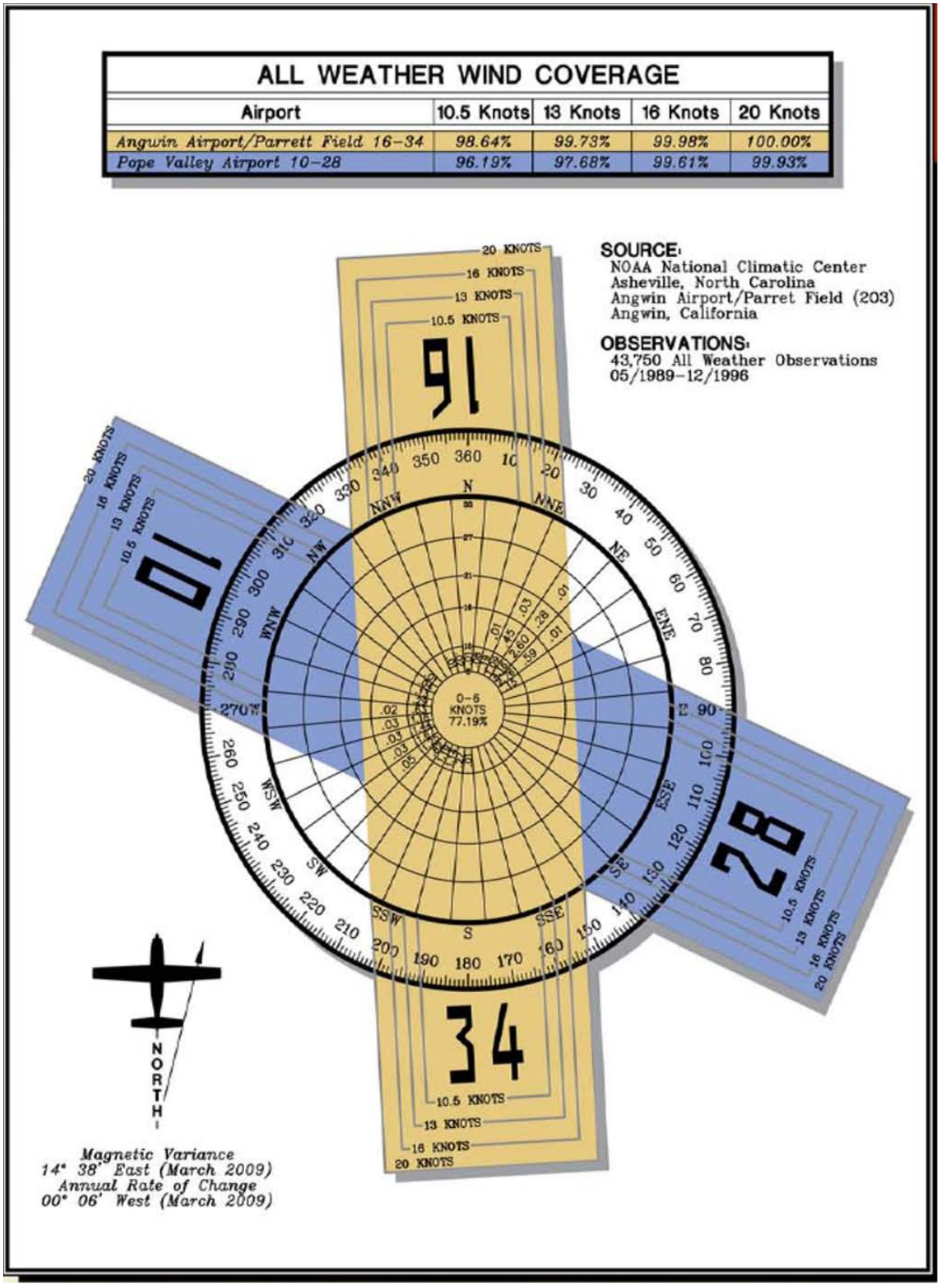
The primary conclusions that I derive from the review of the locally-recorded data are that actual rainfall intensity is somewhat higher than the values derived from the local record by Trso and used as the basis of his Win Tr-55 runoff modeling. His user-supplied custom storm data are: 2-year return period = 3.4"; 5-yr = 4.7"; 10 yr = 5.6"; 25-yr = 6.8"; 50-yr = 7.6"; and 100-yr = 8.4 inches. We do not know how Trso interpreted the local data using annual or partial-duration series, but his calculated input data suggest less rainfall intensity that appears to be the case on this site.

Trso's suggestion of wind as the cause of the pine needle "dam" against the fence could be plausible but does not match the data. Observation by Jackson (personal communication) and the character of his photograph both support the interpretation that on his February 25, 2006 field inspection date, there was clear evidence of overland flow toward the observer as seen in Jackson's Photo 4. Just to the right (south) of his clipboard that provides scale against the fence, we see an area about 30 inches wide where the debris has broken through the fence and is distributed in a fan-shaped deposit extending toward the photographer. Trso also mentions that he sees an accumulation of pine needle debris against the fence in the bottom of the main drainage feature below

Jackson's photograph that he calls the south-west swale [1]. Trso explains that "*Based on observations made on this study, however, it is much more likely that the needle dams formed in response to eolian (i.e., wind) processes. The dams are located on southeast-facing sides of the property fence and they show no change in shape following several storm events during the period November 2006 to March 2007*."

To accumulate along about 25 feet of the western fence the wind would have to be an easterly or northeasterly event of substantial persistence. The wind-rose for the immediately-adjacent airport meteorological station strongly argues against this interpretation. The MND for this timber conversion includes a virtually unreadable copy of this wind-rose, plotted by a Napa County consultant as part of an assessment of options for a new commercial airport in the County. That figure is attached, in more readable format. It plots both the Parrett Field (Angwin) and Pope Valley wind diagrams. It assessed historic wind data collected from the vineyard margin from May 1989 through December, 1996 and concludes that the median dominant wind direction is from 2-degrees west of due north and that the strongest 16-20 knot winds (18.4 – 23 mph) blow on an axis within 15 degrees of the almost due north-south runway 99.98% of the time. In other words, the kind of cross-wind that Trso calls upon to explain the observations of Jackson is extremely improbable. Easterly, or so-called Santa Ana winds are very improbable at this site. Those katabatic winds are generated when a high pressure system over northern Nevada is offset by low pressure off the Central California coast. Such winds are common in Southern California but very rare for Napa County, as demonstrated by the 7-year record at the Angwin airport.

[1] Trso, Nov, 29, 2007, footnote 13, on pp 199.21 (revised), Appendix R



Wind-Rose for Parrett Field, Angwin (salmon 16-34) and Pope Valley Airport (blue 10-28).

Storms referenced by Trso of November 2006 to March 2007 included one 2.44 inch December 26 daily event and a cumulative total over 6 days of 6.92 inches of rain in February with a maximum daily value of 2.12 inches. Trso's observation of no alteration of the needle debris in those events supports the conclusion that that the 2-year daily rainfall intensity used in his calculations can be readily percolated into the soil. That water is held in detention storage in the soil and is released after it percolates along the soil/bedrock interface. Observation of needle accumulations on the east side of the fence in the swale itself by Trso (not seen by Jackson) also support transport by moving water.

Exfiltration and gullying:

Normally, natural or undisturbed watersheds will not become uniformly saturated during a runoff-causing event; however if soils are shallow, cover is sparse, slopes are steep, and/or rainfall is intense, local saturation may in fact occur. In the case of the proposed vineyard block B of 13.0 acres, soils are apparently shallow so that soils will saturate and water will accumulate along the soil-bedrock interface. This water apparently accumulates and moves laterally at the less-permeable contact between soil and volcanic bedrock. That drainage water then emerges at the surface (exfiltrates) where headward-cutting gully incision exposes the less permeable bedrock.

Jackson recognized that the several drainage swales that carry runoff from of the hilltop vineyard development site all exposed volcanic "bedrock" materials where the slopes steepened. Surface drainage is absent from most of the hilltop where rainfall infiltrates, but on the side slopes it is able to concentrate and erode a swale or ephemeral drainageway.

On the west side of Block B, two ephemeral swales drain into Conn Creek. Jackson expressed concern that even a minor increase in runoff in the swales could trigger incision and sediment transport to a sensitive watercourse and domestic water supply. Trso acknowledges that clearing conifer forest, thus decreasing wintertime interception loss, leads to increased effective winter rainfall at ground level and increased potential runoff. Trso intends to mitigate this potential increase with detention water and sediment storage in the swales at the property line with Pacific Union College (PUC) and with a winter cover crop. According to the Napa Valley Vineyard Engineering 2005 erosion control plan (ECP) as revised 1-25-06, the structure in the west-south swale that is designed to meet the need for long term retention and flow spreading structures as recommended by the Napa County RCD, has a limited capacity. It appears to have an active storage depth of about 5 ft with a storage capacity of less than an acre-foot and no clean-out design. Details are not given on the ECP. The combination of uncertainty in the ECP, active exfiltration of storm flow into the swales, and possible use of less than realistic rainfall intensity data by Trso combine to establish that the proposed loss of rainfall interception formerly provided by conifer trees will not be accommodated adequately.

Trso feels that there is no connectivity between the hilltop vineyard Block B and the drainage swales. Jackson recognizes that the uniform headward limit of the drainage

swale is the result of exfiltration of groundwater and soil water during intense rainstorms. Jackson thus postulates that there is subsurface connectivity for water, but not necessarily for sediment. If water volumes or frequency of flows can be increased through clearing of forest cover and conversion to vineyard, then so also can sediment transport to the Conn Creek receiving waters. I observe that the "pine needle dams" and the evidence of surface sheet flow in the forest that will be the future Block B both support connectivity between the vineyard blocks and Conn Creek

Respectfully Submitted,

Robert R. Curry
Registered Professional Geologist
and Hydrologist

Robert R. Curry, PhD, RPG
Principal
Geology, Hydrology and
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Robert Curry is the Principal of Watershed Systems, a consulting rubric that he has operated since 1980. This consultancy focuses on Watershed Science which is seen as the interface between geomorphic and geologic processes, surface and groundwater hydrology, and ecologic processes operating at the watershed scale. Curry is an emeritus professor of earth and environmental sciences in the University of California system, having retired from full-time teaching at the University of California Santa Cruz in 1995. While continuing contract research through the UC System after 1995, he helped found and created a curriculum in Watershed Science in the Watershed Institute and Earth System Science at California State University Monterey Bay, where he has most recently taught Water Resources Law and Policy and other watershed and geology courses.

Education

- PhD – Rates and Forms of Mass Wasting and Climatic History of the Sierra Nevada
  University of California
  Berkeley, 1967
- MSc – Geobotany and plant ecology of the Tenmile Range, Colorado
  University of Colorado,
  1961-62
- B.A. – Geology, University of Colorado, 1960

Registrations

- Professional Geologist – California #3295, 1971
- Certified Erosion Control Specialist - 1980

While employed as a university professor at U.C. Santa Barbara, U.C. Berkeley, and University of Montana, Curry served in numerous federal state and regional government and public service roles. These included Research Hydrologist with the U.S. Geological Survey, Science Advisor to the United States Senate Public Works Committee, and advisor to the Office of the US President's Science Advisor, California's Assembly Natural Resources Committee, several National Academy of Sciences and Engineering advisory panels, and the Ford Foundation funded National Coal Policy Project through Georgetown University. International efforts have included a research fellow status with the French National Academy, several Canadian advisory positions, and an ongoing research and public policy project with the Chilean government agricultural advisory organization FIA. In addition to faculty appointments, other academic roles have included chairing the research programs in the California Water Resources Center for over 10 years, serving as Provost of a U.C. Santa Cruz College, serving as Chair of a Santa Cruz academic department, and founding and directing research for the Watershed Institute at Cal-State Monterey. Public service roles have included Director of Research for the Sierra Club National Office, president of the California chapter of the Society for Ecological Restoration, and help drafting California's Forest Practices Act and U.S. Forest Service cumulative hydrologic effects guidelines.

Professor Curry has earned an international reputation through his work on geologic hazard evaluation, having publicly predicted the failure of the Teton Dam, halted construction of a major dam on the Aconcagua River in Chile based on probable

geomorphic and hydrologic effects and seismic hazards, evaluated serious hazards associated with Chinese waterpower development schemes in China and Tibet, and publicly revealed flaws in safety of major projects in Canada (Revelstoke Dam on the Columbia River) and the United States (Richard B. Russell dam on the Savannah River, the Lawrence Livermore proposed BioWeapons Lab; the Diablo Canyon Nuclear Reactor in California, Ramparts Dam and Project Chariot, Alaska). Curry was able to assess the probable causes of the Santa Barbara oil spill of 1969 and predicted the 1989 Exxon Valdez disaster in Prince William Sound through the nation's first federal impact assessment in 1970. Through his US Senate advisory appointment, Curry was instrumental in stopping the proposed Lyons, Kansas nuclear waste repository and he helped write that seemingly insignificant section of the National Environmental Policy Act in 1969 [§102.2(c)] that requires an Environmental Impact Statement for major federal projects.

Dr. Curry has taught at the University of Alaska, the Geobotanisch Institut at Göttingen, College of the Atlantic in Maine and the University of Montana where he was a professor of geology, hydrology and glacial geology for ten years. Upon accepting the position of Provost at the University of California Santa Cruz in 1979, Curry returned to California and began teaching a wider variety of courses in Geomorphology, Soil Science, Wetland Delineation, Climate Change, Water Resources, Energy Resources, and quantitative environmental sciences.

Professor Curry was elected Fellow of the Geological Society of America in 1977, was appointed co-chair of the Georgetown University's Center for Strategic and International Studies' Coal Policy Project in 1976, and was appointed Provost at the University of California Santa Cruz in 1979 and a Packard Foundation Research Fellow at California State University in 1998. He has published over 100 professional watershed science, cumulative impact, climate history, and public policy papers, is a Registered California Geologist (#3258) and belongs to a wide variety of professional organizations in geological, biological, and ecological fields. After retiring from full-time university teaching, Dr. Curry is now consulting to State and local governments, tribal and foreign governments, and private parties, particularly for complex legal cases. Some of these have been reviewed and supported to the Supreme Courts of California and Montana and federal Courts of Appeal.

Between 1992 and 1996 Professor Curry directed and performed reconnaissance and detailed wetland delineations for the California Regional Water Quality Control Board Lahontan Region from the mountains of the Oregon border to the shores of the Colorado River in the Mojave Desert. Full Corps of Engineers three-criteria data sheets were assembled for several hundred sites that were mapped on over 1000 quadrangles, and detailed mapping with University of California students was completed in conjunction with the National Resource Conservation Service on 17,939 acres of the Bridgeport Valley and later with a research team on 18,450 acres from the Mono Basin to Crowley Lake. He continues to teach workshops on wetlands and land use for State and County regulators.

EXHIBIT 2

East-West Forestry Associates, Inc.
PO Box 276
Inverness, CA 94937
415 669 7100
www.forestdata.com tgaman@forestdata.com

Thomas Gaman, Registered Forester #1776

April 20, 2010

Memorandum to:

Tom Lippe, Attorney
329 Bryant St.; Ste D
San Francisco, CA 94107
Via email: lippelaw@sonic.net

Comments on the Initial Study and Proposed Negative Declaration for Abreu Vineyard Conversion THP 1-05-212 NAP & Erosion Control Plan #P05-03776-ECPA

1. Introduction.

I have been asked by attorney Tom Lippe to provide a biological review and opinion on the carbon estimates provided in the "Initial Study and Proposed Negative Declaration for Abreu Vineyard Conversion" (Negative Declaration) referenced above. I have also reviewed over 500 pages of documentation to familiarize myself with the project.

Apparently part of the process of conversion of these parcels has already occurred. Conversion of commercial timberland to commercial vineyard occurred in 2003 without the benefit of any California Department of Forestry (CDF) or Napa County permit. The matter was settled in court in 2005 and the landowner was fined $35,000. Now the applicant has applied to convert 17 additional acres of wildland to vineyard.

My comments relate to habitat loss, carbon dioxide measurement and emissions, vineyard acreage limitations and cumulative effects. I have also evaluated the project in accordance with the Oak Woodland Decision Matrix (see Appendix A).

1. Habitat Loss.

The habitat fragmentation analysis demonstrates the change of habitat from 1948 to 2006 via a discussion and a series of aerial photographs.[1] The document contends that fire, agriculture,

[1] page 195.6 12-11-07

urban expansion, road development, preservationist and antagonistic attitudes, and the airport have impacted habitats locally during that time, and that "habitat fragmentation has already taken place in the area". Its analysis indicates that brush land and the sparser canopy cover tree types have been reduced substantially during that period, and that tree cover has almost doubled. Because the area is presently fully fenced, the analysts considered the permanent loss of large mammal habitat due to the deforestation/vineyard conversion to be minimal[2]. Of course, instead of destroying the forest once and for all, they could simply remove the fence to help restore the habitat.

It is quite reasonable to think that, due to the relative rarity of habitat, loss of another 7.2 to 17 acres of this forest type, although disturbed by past logging, will result in the local loss of more forest habitat in an area already impacted by fencing, construction of roads, an airport, a college and numerous vineyards. A look at the imagery shows that a wildlife corridor (were it not fenced) will be largely removed. This conversion further transitions the area of the Los Posadas Ridge from an apparent rural wildland to relatively sterile urban and vineyard monoculture. While no spotted owls or threatened & endangered species were found on site, roosting and nesting habitat for a pair of great horned owls, pileated woodpecker habitat and habitat for many other wildlife species will be certainly be lost. To help quantify these impacts I evaluated the project in terms of the "Oak Woodland Decision Matrix". Of twelve items used to evaluate the thresholds of significance in the matrix, the project is highly significant in 11 of them. The small amount of locally remaining habitat will be unavoidably further fragmented, and this is a significant environmental impact. For further details please see Appendix A of this report.

2. Carbon dioxide emissions.

I calculated that CO_2 emissions estimates are likely to be about 7600 tonnes over the next century. This is much more than reported and potentially significant.

I located the US-EPA 2005 Green House Gas Mitigation Potential in U.S. Forestry and Agriculture[3] and located the cited source information in Table 2.1 of that report, which was used to calculate carbon sequestration rates per year (as shown on page 38). While we accept the figures as *annual* loss figures per acre, they do not consider the loss of sequestered carbon in the existing standing trees that are designated for clear cutting. Based on calculations of above ground carbon in black oak forest and woodland types on fifty-two FIA plots in regional forests of similar type[4], we can reasonably expect an inventory 110 metric tonnes of carbon per hectare for this forest type. Thus the 12-acre clear cut would result in loss of approximately 535-660 metric tonnes of on-site carbon in trees. As there are 3.67 CO_2 equivalent tonnes per tonne of carbon, this means that, in a typical black oak forest in this region, about 2000 metric tonnes of CO_2 equivalent will be emitted up front simply by removing this 12 acres of additional forest cover. As an example, the report notes that trees that are to be removed from the site are as large as 30" in diameter, and they are presumably the Douglas-fir (*Pseudotsuga menziesii*) species. According to the US Forest Service "Biopak" equations for carbon, as used in the current Climate Action Reserve Forest Protocol 3.1[5], each such 30" diameter tree

[2] page 195.4 12-11-07
[3] EPA 430-R-05-006 reports in CO2 tons per acre , not carbon as stated.
[4] Gaman. Tom. 2008. Oaks2040: Carbon Resources in California Oak Woodlands at www.californiaoaks.org
[5] Climate Action Reserve. 2009. Forest Project Protocol Version 3.1. see www.climateactionreserve.org

contains 1.45 tons of carbon or 5.35 CO_2 equivalent tonnes, not including below ground (root) carbon. Each 18" tree, the average tree size on this project contains 0.56 tonnes of carbon and 2.05 tonnes of above-ground CO_2 equivalent.

The recalculated CO_2emissions estimates are included in Table 1 below.

ABREU VINEYARD PROPOSED PROJECT
CO_2 Equivalent Emissions

	Carbon Dioxide Sequestration Rates				100 yr CO_2
			Annual Change	One time	Emissions
	Tonnes/yr	tonnes/yr	tonnes CO_2	tonnes CO_2	
Conceded carbon emissions	Preproject	Post-Project			
sequestration loss	346.2	303.6	42.6		4260
One time coversion emissions				28	28
Annual vineyard operating emissions			13.1		1310
One time loss of clearcut-inventory				2000	2000
Total Carbon Cost in Metric Tonnes Carbon Dioxide equivalent (loss due to project)					**7598**

Table 1. Carbon Dioxide Emissions

It is important to understand that the removals quantified in Table 1 *do not include* emissions from removals that have already taken place.

To say that a 12% reduction in carbon sequestration is going to occur seems to be a dramatic understatement. In addition to the ongoing 12% annual reduction in sequestration on site, a substantial existing inventory of naturally sequestered carbon dioxide will also be lost, making it more difficult for California to achieve its 2020 emission limits as outlined in AB32.

3. Vineyard acreage limitation.

Based on my calculations the proposed vineyard acreage exceeds legal limitations.

As explained on page 96.4, Abreu Vineyard Management purchased the 54-acre parcel in 2003 and cleared 8 acres of vegetation at time. A timberland conversion violation was issued and prosecuted by the Napa County District Attorney. Eight acres of vineyard were planted there in 2005. This illegal conversion should be considered in the process of this application. According to the Negative Declaration, this vineyard "is separated in space and time from the proposed 17 acre project and was clearly an unrelated activity"[6]. Why?

Actually continued clearing has been occurring on these parcels, and the new vineyard development will be in apparent violation of the Napa County Ordinance #1219, Section 1.18.108.027

[6] page 13

I obtained the black and white orthophotography for the St. Helena USGS Quadrangle, which covers the area, and classified the vegetation for each of the 2 parcels into generalized categories: forest, shrub, grassland/agriculture. Likewise I obtained the 2005 Napa County imagery from NRCS (NAIPS imagery available online) and mapped the vegetation as it was in 2005. A lot of clearing had been taking place, on both parcels.

Based on the vineyard map provided by the applicant on page 96.5 I digitized the footprint of the proposed vineyard. Combining this with the 2005 vegetation map, I created the post-project vegetation cover map showing what would occur if this project takes place (Figure 3).

Figure 1 below shows the 2 Abreu parcels based on 1993 orthophotography, with boundaries that I digitized based on the maps and figures in the Negative Declaration report.

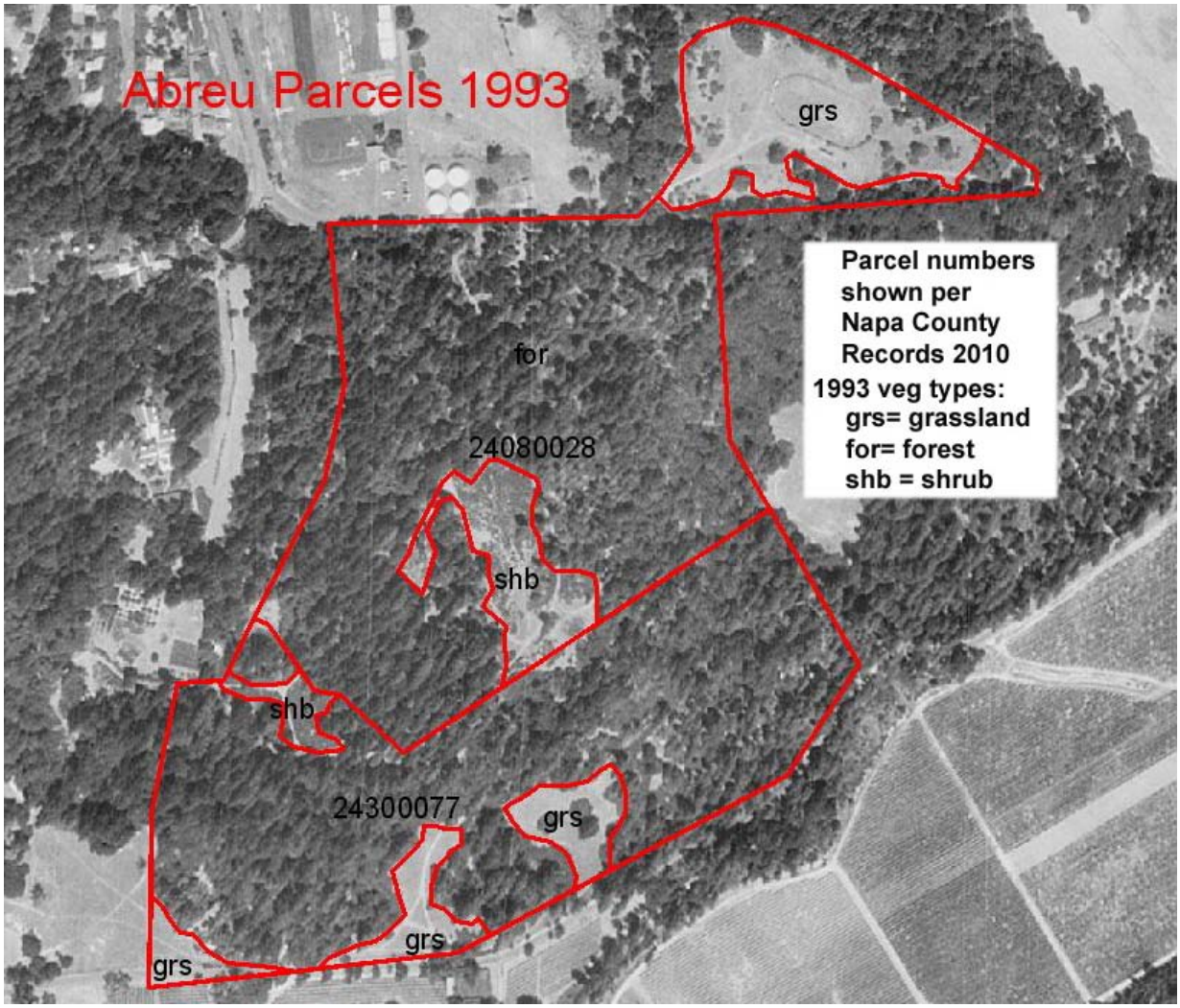

Figure 1: Abreu Parcels and Vegetation 1993

The 1993 black and white image shows that the parcels, taken together, were then 81% forested, 5% shrub and 14% grass/open/agricultural or under conversion. The image also shows that the area classified as forest in Figure 1 was more than >10% canopy cover in trees, and as such is considered to be forestland by US Forest Service, WHR, FRAP, and other generally accepted vegetation classification and mapping methods. Figure 2 shows same area

in 2005 from NAIP imagery provided by the Natural Resource Conservation Services (NRCS). Using GIS technology one easily can calculate vegetative change for each parcel.

Parcel 024-300-077

The Napa Erosion Control Ordinance[7] mandates that in this Angwin "sensitive domestic water supply drainage" 60% of the 1993 forest canopy cover, and 40% of the shrub cover, shall be retained. This parcel was 86.3% forest in 1993. By 2005 it was 47.3% forest and if the vineyard is built is will become 45.2% forest. Of the 1993 forest 52.42% will remain, and 0% of the 1993 shrub condition will remain.

These are well under the 60% forest canopy and 40% shrub retention lower limits.

Parcel 024-300-077

year	percentage of parcel area by vegetation type			
	forest	shrub	grass	ag/vineyard
1993	86.3%	2.3%	11.4%	0.0%
2005	47.4%	0.0%	44.2%	8.4%
post-project	45.3%	0.0%	43.2%	11.5%

Percentage of 1993 Forest land remaining post-project: 52.42%

Table 2a

Parcel 024-080-028

The Napa Erosion Control Ordinance[8] mandates that 60% of the 1993 forest canopy cover, and 40% of the shrub cover, shall be retained. This parcel was 76.4% forest and 7.6% shrub in 1993. By 2005 it was 67.5% forest and if the vineyard is built is will become 46.1% forest. Of the 1993 forest 60.2% will remain, and 0% of the 1993 shrub condition will remain.

Parcel 024-300-077

year	percentage of parcel area by vegetation type			
	forest	shrub	grass	ag/vineyard
1993	76.4%	7.6%	16.0%	0.0%
2005	67.5%	0.0%	12.3%	20.2%
post-project	46.1%	0.0%	0.2%	53.7%

Percentage of 1993 Forest land remaining post-project: **60.3%**

Table 2b

[7] Section 2. 18.108.27
[8] Section 2. 18.108.27

These are well under the 60% forest canopy and 40% shrub retention lower limits.

Both parcels considered together

The Napa Erosion Control Ordinance[9] mandates that 60% of the 1993 forest canopy cover, and 40% of the shrub cover, shall be retained. The two parcel measured as a single ownership unit were 80.7% forest and 5.3% shrub in 1993. By 2005 it was 58.7% forest and 0% shrub. If the vineyard is built the vegetative cover will become 45.1% forest and 0% shrub. Of the 1993 forest 56.6% will remain, and 0% of the 1993 shrub condition will remain.

Abreu both parcels considered as a unit

year	percentage of parcel area by vegetation type			
	forest	shrub	grass	ag/vineyard
1993	80.73708	5.291872	13.97105	0
2005	58.75401	0	26.16744	15.07855
post-project	45.72385	0	18.93234	35.3438

Percentage of 1993 Forest land remaining post-project: **56.63%**

Table 2c: Abreu Parcels percentage of 1993 Forest Area Remaining

These are well under the 60% forest canopy and 40% shrub retention lower limits.

[9] Section 2. 18.108.27

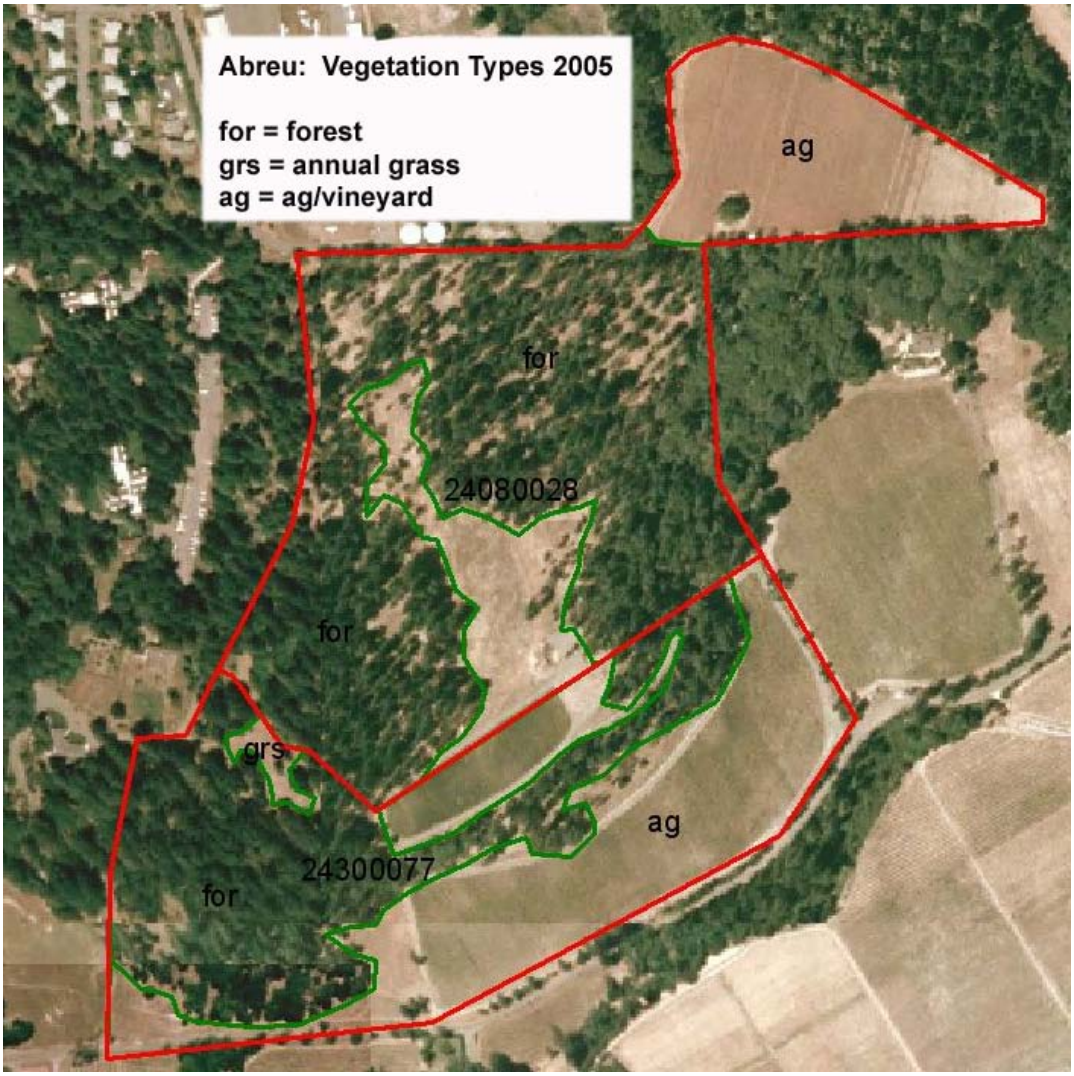

Figure 2: Parcels and Vegetation 2005 from NAIPS imagery

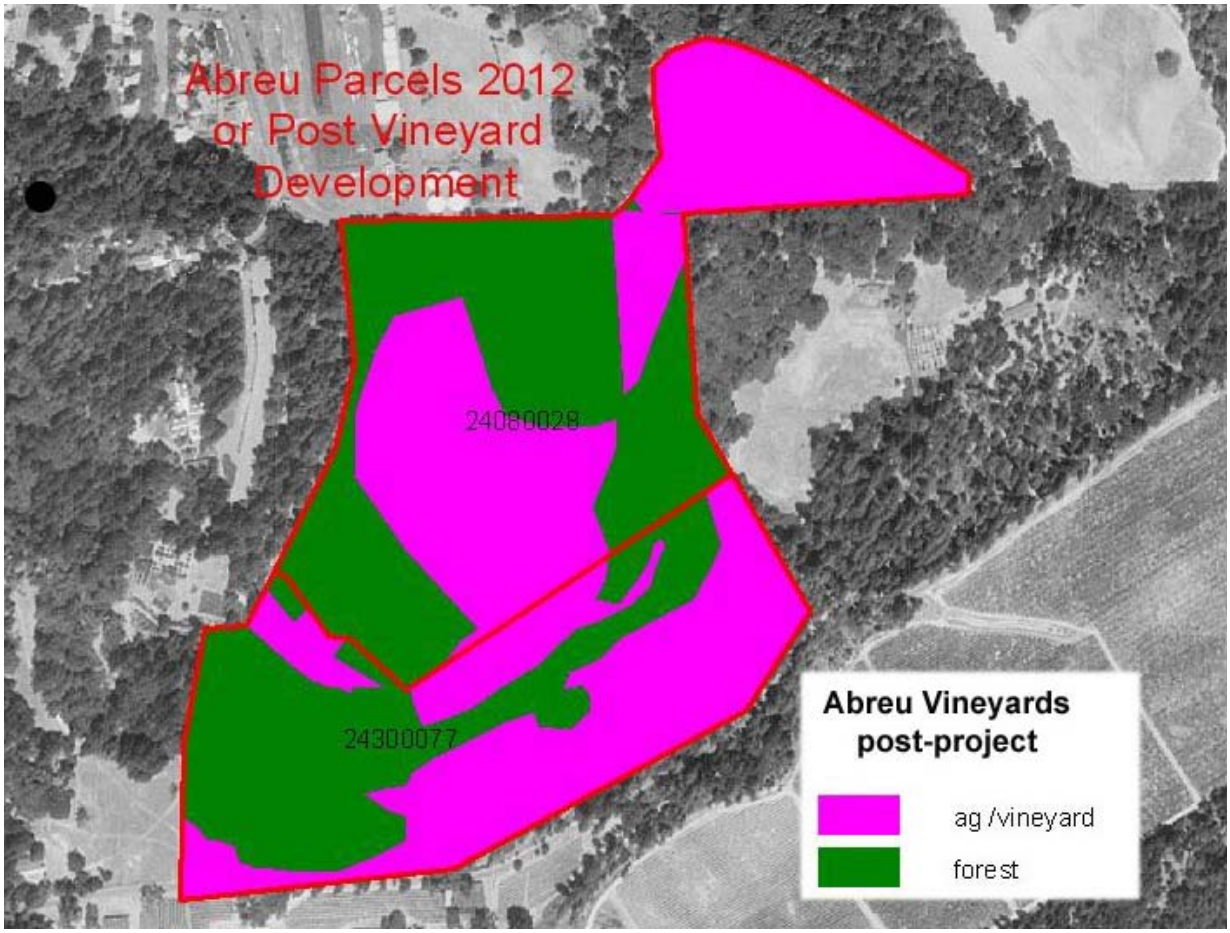

Figure 3: Post Project Vegetation Circa 2012 shows extent of vineyard development and severe fragmentation of habitat.

4. Cumulative Impacts. Napa County is seeing more and more vineyard estate development. Each such construction project is a contributor to the cumulative impacts that affect wildlife habitat, aesthetics, air quality, create noise, reduce biological diversity and contribute to climate change. This project is among many that are significant contributors to the loss of environmental quality in the North Bay Area. This project may isolate fragments of native habitat and will affect local microclimates, ecosystem services, and wildlife in area of Angwin. The significant cumulative impacts of these losses of forest, woodland and biological resources have only been considered at the watershed level. The environmental analysis should address the cumulative impacts at the local level, for instance within one mile of the Village of Angwin. The results of such an analysis would show that much of the local area has been under increased development pressure even since 1993. An extensive area a few hundred feet to the south was recently cleared of forest cover. Cumulatively these and other nearby vineyard conversions have significant local consequences.

5. Conclusion: Loss of habitat and biodiversity are significant at the project level. Carbon losses are potentially significant. Locally significant biological impacts, and loss of woodland forests, have been continuing on this site for many years and should be further mitigated. Cumulative impacts are locally understated. The limitations on removal of tree and shrub cover as set forth in the Napa County Ordinance 1219 or 2003 are being ignored. According

to methods developed by 10 top California oak woodland scientists in the "Oak Woodlands Impact Decision Matrix", the loss *is* significant.

7. Statement of Qualifications.

I have bachelors and masters degrees in forestry from University of California at Berkeley and from Yale University respectively. I am California Registered Professional Forester #1776, and have been an independent consulting forester since 1978. I am 100% owner of East-West Forestry Associates, Inc. and advisor to the California Wildlife Foundation. I have been active in oak woodlands inventory, management and conservation for many years. I have 30 years of experience in virtually all forest and woodland associations throughout California. A resume is attached (Appendix B) and a list of recent projects is available at our company website (*www.forestdata.com*).

Respectfully submitted by:

Tom Gaman, Registered Forester #1776

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Appendix A.

The Oak Woodlands Impact Decision Matrix

In 2008 The UC Integrated Hardwood Range Management Program published the "Oak Woodlands Impact Decision Matrix"[10] which summarizes the thinking of 11 authors and a working group, all of whom are experts in the biology, inventory, management and other aspects of California oak woodlands science.

The authors of the decision matrix emphasize the importance of scientifically valid approaches and go on to cite the most important elements "for maintaining the integrity of oak woodlands, i.e. old trees/forests, maintaining rare and representative habitats, riparian corridors, water quality and quantity, ecosystem functions, and natural connectivity". Based upon evaluation of each of many biological factors the "Matrix" provides a methodology and standards for comparison, from which users can get an idea as to the level of significance of their projects. This is accomplished in 3 steps:

1. Establishing Site Condition;
2. Assessing Thresholds of Significance; and
3. Identifying Potential Mitigatory or Remedial Actions.

I used the Matrix to evaluate this project.

STEP1 – Establishing Site Conditions: Prior to establishment of these vineyards, the condition of the site was a somewhat "'wild state' being managed for open space where all of the ecological functions are still being provided, i.e. , shade, ground water filtration, wildlife/fish habitat, nutrient cycling, wind/noise /dust abatement, carbon sequestration, etc"[11]. On the other hand it is adjacent to housing, other vineyards (off site), and converted sites that were probably used for grazing or other agricultural practices.. This woodland falls within the definition of "Moderately Degraded Woodland". As such it is potentially of high ecological significance.

STEP 2 – Threshold of Significance: The impacts of the project can be evaluated at 3 scales (landscape, site, and individual trees and groves). At the largest (landscape) scale the major factors for impact evaluation of the proposed "Abreu Vineyard Project" intact oak woodlands are listed below in Table 2.

[10] Giusti, Merenlender, Harris, Scott, Applebee, Marr, Stewart, Walker, Vance, McCreary and Motroni. **2008**. Oak Woodland Impact Decision Matrix: A Guide for Planner's to Determine Significant Impacts to Oaks as Required by SB1334 (Public Resources Code 21083.4). UC Integrated Hardwood Range Management Program, Berkeley, CA. Attached in Appendix C.

[11] See Figure 3. This assessment is based on the historical 1993 black and white orthophoto.

Table 3. Significance of Impacts on Intact Woodlands at the Landscape Scale

Impacts Prediction Matrix for Abreu Moderately Intact Woodlands		**Degree of Impact**	
Step 2: Assessing Thresholds of Significance	***high***	***medium***	***low***
Checklist factor	*(Significant)*	*(Highly likely significant)*	*(Moderately significant)*
?Net loss of oak woodland acreage.	v		
?Increase habitat fragmentation.	v		
?Loss of vertical and horizontal structural complexity.	v		
?Loss of understory species diversity.	v		
?Loss of food sources.	v		
?Loss of nesting, denning, burrowing, hibernating, and roosting structures.	v		
?Loss of habitats and refugia for sedentary species and those with special habitat requirements, i.e., mosses, lichens, rocks, native grasses and fungi.	v		
?Road construction, grading, trenching, & other road impacts	v		
?Stream crossings, culverts, and road associated erosion and sediment inputs			
?Changes in conditions prevent natural woodland regeneration	v		
?Obstacles pose barriers to wildlife or fish	v		
?Project provides opportunities for Invasive plants and animals	v		

All 12 of the items suggested by the Matrix are listed in Table 2. I have evaluated 11 of items to be of high impact . The impact of the vineyard development is "highly likely significant". At the site (up to 3 acres) and individual tree or grove levels, they also remain significant impacts, each as a contributor to the loss of biodiversity.

STEP3: Identifying Potential Mitigatory or Remedial Actions. Since there are significant impacts on oak woodlands the Project submitter "should include mitigation measures designed to avoid, minimize, or compensate the impacts"[12]. Since these are significant local project level impacts, avoidance and mitigation are preferably accomplished on site.

[12] Guisti et al. 2008

Appendix B: **RESUME**

Thomas H. Gaman
East-West Forestry Associates, Inc.
California Registered Forester #1776

Website: *http://www.forestdata.com*

Forest Planning and Management
Natural Resources Inventory and Environmental Monitoring
Geographic Information Systems, Remote Sensing and Applications Programming
Urban and Community Forestry
Project Organization and Management

EDUCATION:
Yale University, New Haven, CT Master of Forestry May 1981
University of California, Berkeley, CA B.S. Forestry June 1972
Washington University, St. Louis, MO Biology 1968-70

PROFESSIONAL EXPERIENCE:

Forest and Land Management: Consultant forester since 1978. President of East-West Forestry Associates, Inc. Preparing management plans and compliance documents for private and public landowners, administering forest management and fire hazard mitigation activities in eastern and western US. Formerly Forest Stewardship Council "Smartwood" Certified. California Climate Action Registry carbon certifier for forest protocols.
Remote Sensing, Geographic Information Systems, Global Positioning Systems, Electronic Mapping, Software development/programming. Helped developed, maintain and own rights to BaseMap2000 GIS, Factal/Appraise Inventory Software. Also Arc-Info & ArcView GIS licensed. 7 Trimble and Garmin GPS Units. Developed numerous GIS databases for clients mostly in California, including Hoopa Reservation, Crane Mills, Marin Municipal Water District, Asilomar Conference Center, San Francisco Water District, Sierra Club, Tenana Chiefs and others. VB 6.0, Fortran 90, MapObjects, and html Programming. Authored "ForestServer" FIA analysis and other forst inventory software and numerous utilities.
Forest Inventory and Environmental Monitoring. Contract development and/or implementation of forest inventories for all Region 5 National. Inventoried Jackson State Forest and developed methodologies for inventory of Georgia-Pacific Corp.'s redwood forest lands. Developed numerous statistical inventory procedures. Extensive international experience.
Education: Active involvement as a volunteer in numerous educational programs. Active as vice-president of the California Oak Foundation, treasurer of the Environmental Action Commiteee of West Marin, California Urban Forest Advisory Council member, Amigos de las Americas (Marin Chapter) Board. Member of the Forest Guild and Society of American Foresters (Certified Forester).
Recent Projects: see www.forestdata.com/recent.htm

Barrella, Donald

From: Dan Radulescu [DRadulescu@waterboards.ca.gov]
Sent: Friday, July 09, 2010 6:21 PM
To: Barrella, Donald
Subject: TFC Vineyard 22 LLC

Hello Mr. Barrell:

In reviewing the CEQA document for the proposed project, it seemed that somehow a few regulatory requirements were overlooked. Since on Figure 5 attached to the document waters of the United States have been identified, the project proponent must discuss if any wetlands are impacted by the project development. In case there are impacts, the proponent must submit an application for a 404 permit to the U.S. Army Corps of Engineers. Also, a 401 Water Quality Certification must be issued by the Regional Water Board for the 404 permit issued by U.S.ACE. In addition, a jurisdictional delineation must identify also any existing waters of the state potentially impacted by the activities on site including the installation of any new culverts. 1

Please notify the applicant about this information.

Thank you,

Dan Radulescu
Lead, 401 Water Quality Certification & MS4 Permitting
CVRWQCB
916.464.4736