

# HENRY CORNELL WINERY

Environmental Impact Report Addendum  
SCH# 2008102040

Prepared for  
County of Sonoma Permit and  
Resource Management Department

April 2016



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211996.02

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# SECTION 1

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## Introduction

### A. Project Overview

The County of Sonoma, as Lead Agency under the California Environmental Quality Act (CEQA), has prepared an Addendum to the *Henry Cornell Winery Final EIR* (Final EIR) to provide specific additional environmental analysis for the issues of inducement of vineyard growth, traffic related impacts and road degradation, and responses to comments on traffic impacts, in compliance with the Superior Court's Statement of Decision (*New-Old Ways Wholistically Emerging v. Sonoma County Board of Supervisors*, No. SCV-252985), and in conformance with CEQA. This Addendum serves to supplement and update certain aspects of the original environmental analysis from the Final EIR with new information and analysis where appropriate. The Sonoma County Board of Supervisors shall consider this Addendum, together with the Final EIR, prior to making a decision on the Project.

### B. Background

On December 11, 2012, the Sonoma County Board of Supervisors adopted Resolution 12-0575, which certified the Final EIR; and adopted Resolution 12-0576, which denied an appeal from a decision of the Board of Zoning Adjustments, approved a Use Permit for the Henry Cornell Winery, and adopted a Mitigation and Monitoring Reporting Program.

On December 31, 2012, a group called New-Old Ways Wholistically Emerging (NOWWE) filed a lawsuit (*New-Old Ways Wholistically Emerging v. Sonoma County Board of Supervisors*, No. SCV-252985) challenging the approval of the Henry Cornell Winery, and alleging: 1) that the Board of Supervisors violated CEQA, 2) that the Board violated the Planning and Zoning Law because the approval was allegedly inconsistent with the Sonoma County General Plan, and 3) that the County violated NOWWE's alleged due process rights by not allowing NOWWE to address certain statements.

NOWWE never raised its due process claim with the County. Prior to the Superior Court's hearing on the merits of the case, and pursuant to an interlocutory remand that was sought by the County and opposed by NOWWE, the Board of Supervisors re-opened the public hearing on May 20, 2014 to resolve the plaintiff's allegations that it had not been heard. Following the public hearing, and having heard the contentions of NOWWE that previously had not been raised, the Board of Supervisors adopted a resolution reaffirming its prior decision.

On April 29, 2015, the Superior Court entered a Statement of Decision rejecting the petitioner's Planning and Zoning Law claim and the petitioner's due process claims. The Superior Court rejected the majority of the petitioner's CEQA arguments, but ordered that the Board of Supervisors set aside its approval of the Project pending reconsideration of growth inducing impacts and traffic-related impacts. The Court noted in its order that the defects were "limited in scope considering the document as a whole."

On the issue of growth inducing impacts, the Court specifically commented as follows: "The record shows that [Cornell] owns more than 200 acres and has vines on only 20 acres, producing 100 tons of grapes a year, while the project will have the capacity of processing 150 tons of grapes a year... Other evidence raises a distinct possibility that the project may lead to vineyard development, namely (1) the data showing unused land, zoned for vineyards, currently not used for vineyards in the area; (2) [Cornell] itself owns many acres of such potential undeveloped vineyard land; (3) the Project will have a capacity to process half again as many grapes as [Cornell's] own current vineyard currently produces; (4) [Cornell] has more than enough unused land to convert to vineyards to fill the rest of the Project capacity; and (5) vineyard conversions are now, ostensibly, ministerial."

On the issue of traffic, the Court found that the EIR had insufficient information about roadway wear and roadway safety. The Court stated: "The EIR contains no analysis or evidence regarding the possibility or nature of the construction traffic on road degradation. It contains only a terse, conclusory statement that due to the fact that road degradation results from incremental and cumulative wear over a span of years, short-term heavy use is not considered. It provides no explanation of why and no analysis, points to no reports or data." The Court also found that there was nothing in the EIR stating how long trucks would be, which was relevant to safety.

The Court's order specified: "The court orders that the [County] set aside its decision and remands the matter back to [the County] for it to reconsider the specific issues on which this court finds the decision to violate CEQA, specifically, growth-inducing impacts, traffic-related impacts and road degradation, and responses to comments on traffic impacts." The Court ordered that in the event the Board of Supervisors approved the project after reconsideration, it must return to the Court to seek a determination that it has complied with CEQA.

Pursuant to the Superior Court's order, on August 18, 2015 the Board of Supervisors adopted a resolution 1) setting aside the approval of the Use Permit for the Henry Cornell Winery Project pending the reconsideration ordered by the Sonoma County Superior Court; 2) directing the Permit and Resource Management Department to return to the Board with additional analysis in compliance with the Superior Court's Statement of Decision; 3) retaining the Board's jurisdiction over the remand and reconsideration ordered by the Superior Court; and 4) authorizing County Counsel to take all actions necessary to demonstrate that the Board has complied with the Court's order.

## C. Use of this Addendum

Minor additions to the EIR are required to comply with the Court's order, which are found in this Addendum to the EIR. The Addendum contains these additions, and is circulated together with the portions of the EIR that are being supplemented.<sup>1</sup> This Addendum to the Final EIR has been prepared by the County of Sonoma as Lead Agency in compliance with the Superior Court's Statement of Decision and in conformance with CEQA, and provides the environmental information and evaluation necessary for the development and implementation of the Project. Addressing the issues raised by the Superior Court, and the triggers for further environmental review in CEQA Guideline 15162(a), no further environmental review under CEQA would be necessary to implement any aspect of the Project. The Sonoma County Board of Supervisors shall consider this Addendum, along with the Final EIR, prior to making a decision on the Project. CEQA does not require the circulation of an addendum. The County is circulating this addendum for comment in the interests of greater public understanding of the project.

## D. Organization of this Addendum

This Addendum to the Final EIR has been organized into the following sections.

**Section 1, Introduction:** This section provides context and relevant background information, and describes the intended use and organization of this Addendum.

**Section 2, Project Description Updates:** This section provides minor updates and detail on certain Project setting and Project characteristics.

**Section 3, Environmental Evaluation:** This section provides environmental review of those specific issues identified for reconsideration in the Superior Court's Statement of Decision.

**Section 4, Conclusion:** This section provides a conclusion to the analysis presented in this Addendum.

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<sup>1</sup> Normally, the findings pursuant to a CEQA addendum are based on modifications to a project after an EIR has been certified, and the findings are made pursuant to CEQA Guideline 15162. Here, the addendum addresses the Court's order, and CEQA Guideline 15162. However, as set forth in this Addendum, none of the standards for a supplemental EIR in Guideline 15162 are met.

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## SECTION 2

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# Project Description Updates

### A. Preface

The County of Sonoma has prepared this Addendum to the *Henry Cornell Winery Final EIR* (Final EIR) to provide additional environmental analysis for specific issues identified in the Superior Court’s Statement of Decision (*New-Old Ways Wholistically Emerging v. Sonoma County Board of Supervisors*, No. SCV-252985).

However, all construction characteristics (except where noted below), physical site development, and operational aspects of the Project, and required approvals, are the same as those proposed and described in Chapter III, Project Description in the Final EIR (included as **Appendix A** in this Addendum). The Project Description presented herein includes updated setting information where needed (e.g., updated land ownership and applicable land use control information) to reflect existing conditions, and provides updates to certain Project construction information, including revised construction start/end dates, and detail on Project construction truck types.

### B. Project Setting Updates

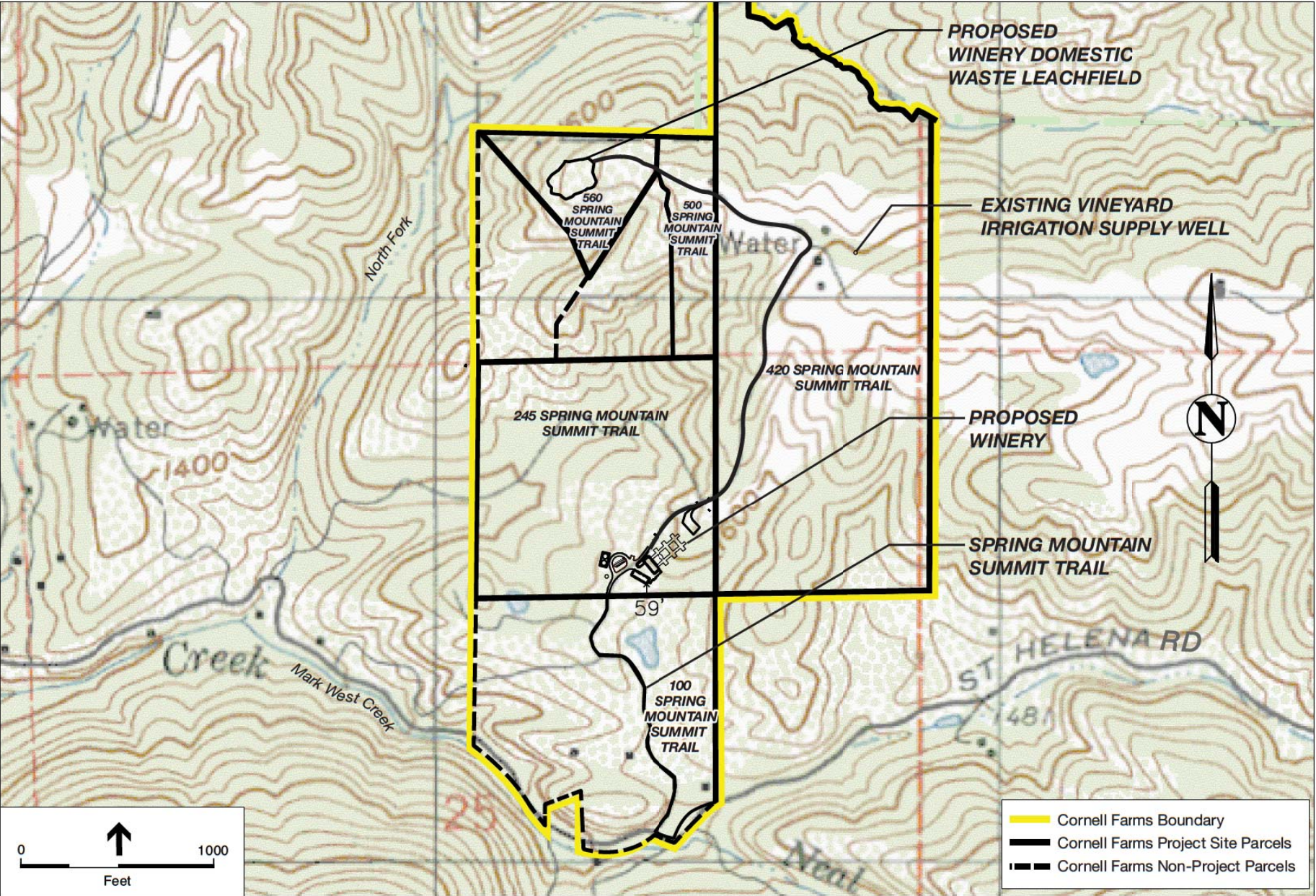
#### Project Location

The Project site is located at 100, 245, 420, 500 and 560 Spring Mountain Summit Trail (formerly Wappo Road) in eastern Sonoma County [Assessor’s Parcel Numbers (APNs) 028-250-007, 028-260-041, 028-260-047, 028-260-023 and 028-260-025, respectively] approximately 1½ miles west of the Sonoma-Napa County line (see **Figure 2-1**). The property is owned by Henry Cornell. Including the five Project site parcels, Henry Cornell owns a total of ten contiguous legal parcels north of St. Helena Road amounting to 213.11 acres, plus two additional legal parcels south of St. Helena Road, for a total of 215.49 acres. **Figure 2-2** presents Assessor’s Parcel location for the Project site and vicinity.<sup>2</sup> **Figure 2-3** presents an aerial photograph of the Cornell Farms property.

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<sup>2</sup> Please note the Henry Cornell Final EIR described the environmental setting as it existed at the time the Notice of Preparation (NOP) was published. Since the NOP was published, Henry Cornell acquired several additional parcels in the site vicinity, including APNs 028-250-006 (115 Spring Mountain Summit Trail, 24 acres), 028-250-012 (8450 St. Helena Road, 2 acres), 028-250-014 (8545 St. Helena Road, 2 acres), 028-250-017 (8516 St. Helena Road, 0.38 acres), and 028-250-018 (8565 St. Helena Road, 0.03 acres) – see Figure 2-2 for location. No portions of the Project are proposed on these parcels.





PROPOSED WINERY DOMESTIC WASTE LEACHFIELD

EXISTING VINEYARD IRRIGATION SUPPLY WELL

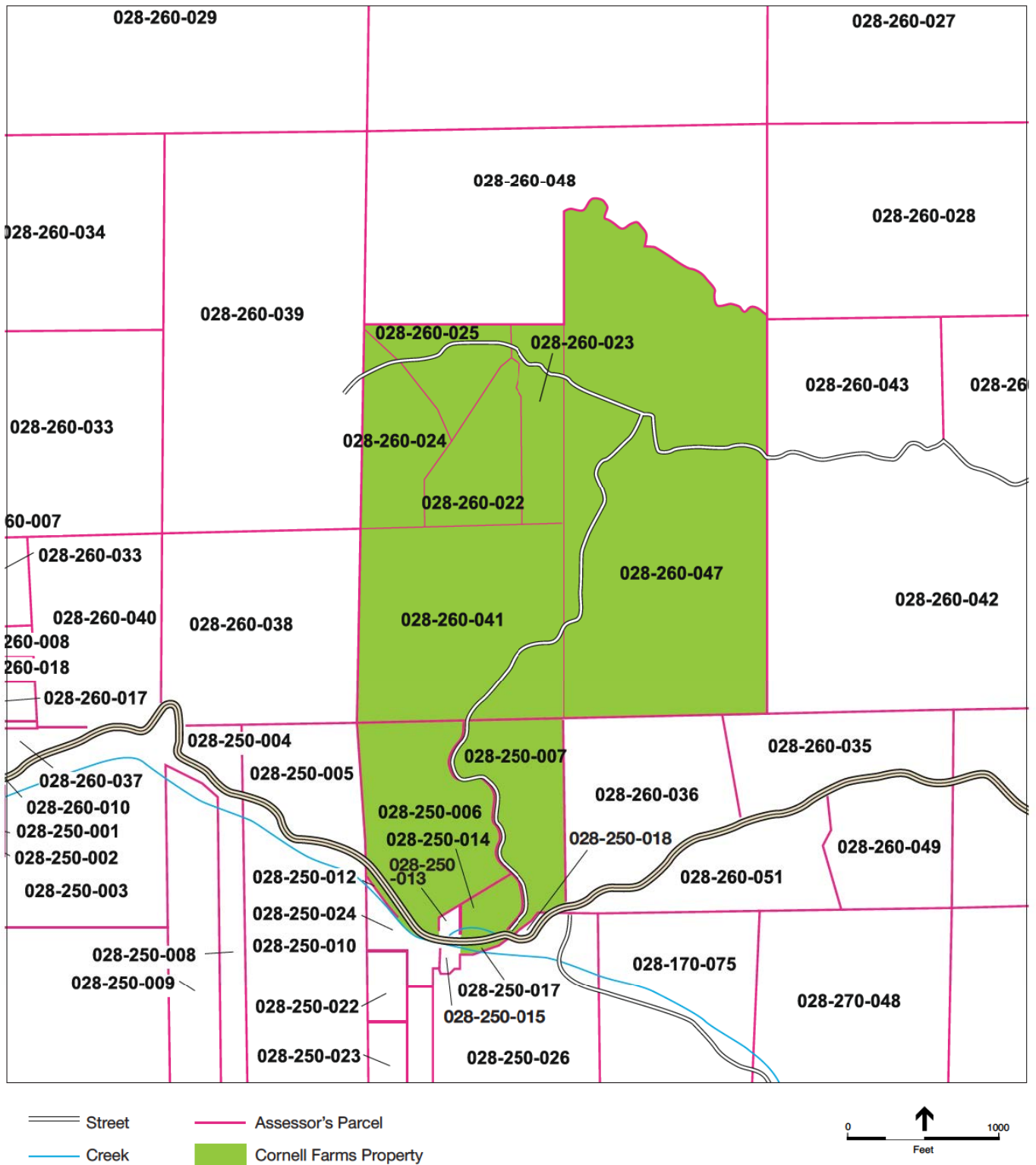
PROPOSED WINERY

SPRING MOUNTAIN SUMMIT TRAIL

- Cornell Farms Boundary
- Cornell Farms Project Site Parcels
- Cornell Farms Non-Project Parcels

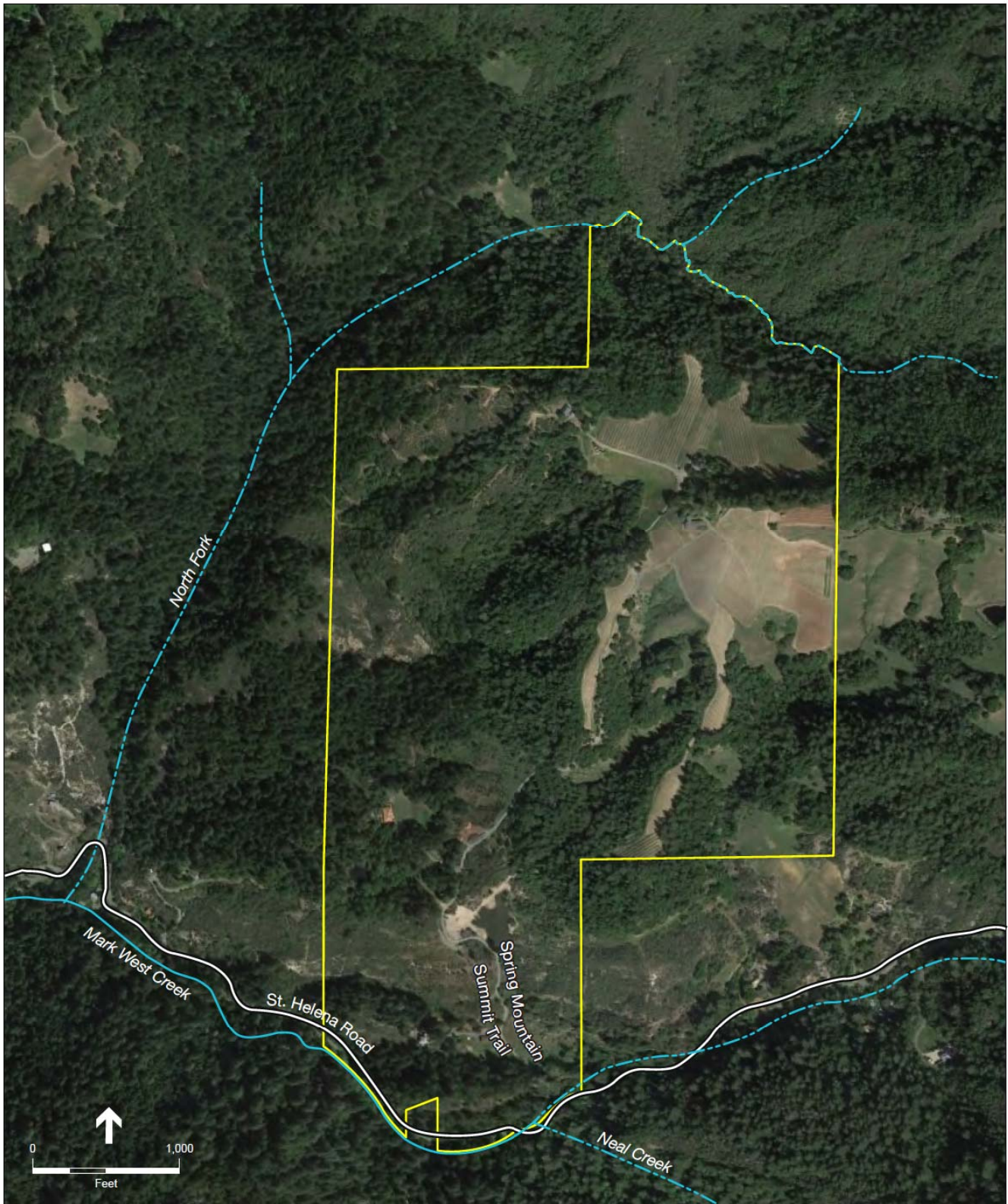
SOURCE: Atterbury & Associates, 2011/ USGS, 1980; ESA, 2015

**Figure 2-1**  
Project Location Map



SOURCE: Todd Engineers, ESA

Henry Cornell Winery . 211996.02  
**Figure 2-2**  
Assessor's Parcel Map of Project Site and Vicinity



- Cornell Farms Boundary
- Creek (approximated from USGS topographic map)**
- Perennial Creek
- - - Intermittent Creek

SOURCE: Sonoma County, 2012; ESRI, 2012; ESA 2015  
 Aerial Base - Google Earth, 2015

Henry Cornell Winery . 211996.02

**Figure 2-3**

Aerial Photograph of Project Site and Vicinity

## Existing Land Use Controls

A summary of applicable County General Plan and zoning designations for all Cornell Farms property parcels is presented in **Table 2-1** below.

**TABLE 2-1  
CORNELL FARMS PROPERTY GENERAL PLAN AND ZONING DESIGNATIONS**

APN No.	Address	Size (acres)	County General Plan Designation <sup>a</sup>	County Zoning Designation <sup>b</sup>
<b>Project Site Parcels</b>				
028-250-007	100 Spring Mountain Summit Trail	15.00	RR-15	RR B6 15, BH RC200/50 SR
028-260-041	245 Spring Mountain Summit Trail	40.00	RRD-100	RRD B6 100, BH
028-260-047	420 Spring Mountain Summit Trail	94.53	RRD-100	RRD B6 100, RC200/50
028-260-023	500 Spring Mountain Summit Trail	6.45	RRD-100	RRD B6 100
028-260-025	560 Spring Mountain Summit Trail	7.20	RRD-100	RRD B6 100, RC200/50
<b>Remaining Cornell Farms Parcels</b>				
028-250-006	115 Spring Mountain Summit Trail	24.0	RR-15	RR B6 15, BH RC200/50 SR
028-260-022	535 Spring Mountain Summit Trail	9.39	RRD-100	RRD B6 100
028-260-024	578 Spring Mountain Summit Trail	14.51	RRD-100	RRD B6 100, RC200/50
028-250-012	8450 St. Helena Road	2.00	RR-5	RR B6 5, RC200/50 SR
028-250-017	8516 St. Helena Road	0.38	RR-5	RR B6 5, BH RC200/50 SR
028-250-014	8545 St Helena Road	2.00	RR-5	RR B6 5, BH RC200/50 SR
028-250-018	8565 St. Helena Road	<u>0.03</u>	RR-15	RR B6 15, BH RC200/50 SR
		<b>215.49</b>		

NOTE:

<sup>a</sup> Sonoma County General Plan 2020 Land Use Designations

RR = Rural Residential; density is identified in number of acres per dwelling unit  
RRD = Resources and Rural Development

<sup>b</sup> Sonoma County Zoning Designations

RR = Rural Residential District; density limitation expressed in number of acres per dwelling unit  
RRD = Resources and Rural Development District; density limitation expressed in number of acres per dwelling unit  
BH = Biotic Habitat Combining Zone  
RC = Riparian Corridor Combining Zone; numbers following RC designation (XX/XX) indicate streamside conservation area for development / agricultural setback  
SR = Scenic Resources Combining District

On the Project site, the *Sonoma County General Plan 2020* land use designation for the 245, 420, 500 and 560 Spring Mountain Summit Trail Road properties is Resource and Rural Development (RRD), 100-acre density; and for the 100 Spring Mountain Summit Trail property is Rural Residential (RR), 15-acre density (Sonoma County, 2008). The County zoning for the Project site and vicinity is illustrated in **Figure 2-4**. Zoning for the 245, 420, 500 and 560 Spring Mountain Summit Trail properties is RRD, B6-100-acre density. The 245 Spring Mountain Summit Trail property is additionally located within a Biotic Habitat combining zone (BH), the 560 Spring Mountain Summit Trail property is additionally located within a Riparian Corridor combining zone (RC); and the 420 Spring Mountain Summit Trail property is additionally located within an RC combining zone. Zoning for the 100 Spring Mountain Summit Trail property is RR, B6-15 acre density, and within BH and RC combining zones and a Scenic Resources combining district (SR) (Sonoma County, 2015).<sup>3</sup>

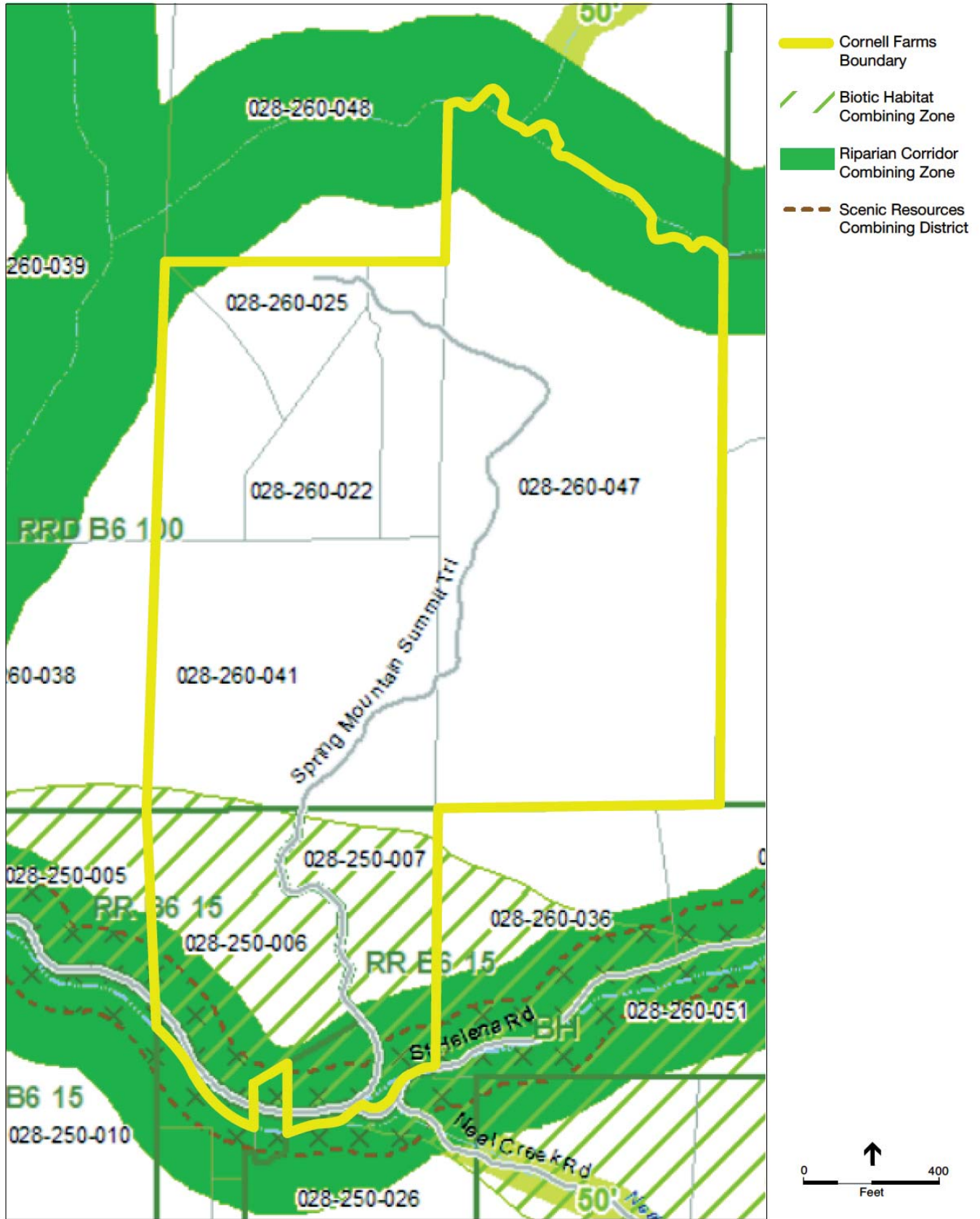
## C. Project Construction Updates

The proposed winery construction would be the same as that originally proposed and described in detail in Final EIR Chapter III, Project Description in **Appendix A** in this Addendum (pages III-26 to III-27), with the exception of construction start and end dates (which the Final EIR identified as beginning in April 2013 and ending in October 2014). For purposes of this Addendum, under the Project, construction of the winery would still occur over approximately 19 months as originally proposed, but with construction beginning in the first dry season following Project approval. All estimates of individual construction component durations and associated number of construction workers and construction vehicle trips would be the same as those presented in the Final EIR.

According to the Project sponsor's engineer, in excess of 90 percent of the trucks needed for Project construction are expected to be 3-axle / 25 feet long, with the remaining mostly being 2-axle / less than 16 feet long, and no more than one percent being 4-axle / 30 feet long (see **Appendix E** in this Addendum).

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<sup>3</sup> It should be noted that since the Henry Cornell Final EIR was published, the County has replaced its Biotic Resources (BR) combining district with separate combining zones for Riparian Corridor (RC) and Biotic Habitat (BH) under the County's Riparian Corridor Ordinance, adopted in November 2014. These updated zoning designations are presented and described in this Addendum.



SOURCE: Sonoma County PRMD, ESA, 2015

Henry Cornell Winery . 211996.02

**Figure 2-4**  
Zoning of Project Site and Vicinity

## References

*(The references cited below are available at the Sonoma County Permit and Resource Management Department, 2550 Ventura Avenue, Santa Rosa, California, unless otherwise specified.)*

Atterbury & Associates, letter, April 21, 2016.

Sonoma County, *Sonoma County General Plan 2020*, adopted September 2008.

Sonoma County, *Zoning Regulations – Chapter 26*, as amended 2015.

## SECTION 3

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# Environmental Evaluation

## A. Inducement of Vineyard Growth

### Introduction

In response to the Superior Court's Statement of Decision (No. SCV-252985), this Addendum addresses the potential for the Project to induce vineyard growth. This section first summarizes how growth inducement was addressed in the Final EIR, and the conclusions reached. This Addendum also provides additional supporting setting information on vineyard development on the Project site, within the local appellation and the County, and related information on wine production. This Addendum then assesses the potential for the Project to encourage and facilitate vineyard growth that could significantly affect the environment, either individually or cumulatively.

The County requested relevant information, which was provided by winemaker and wine consultant, Bob Cabral, working on behalf of the Project sponsor (see memorandums in **Appendix B.1** and **B.2** in this Addendum). Bob Cabral is an experienced high end winemaker and wine consultant who is very familiar with Sonoma County. His prior winemaking experience includes serving as General Manager/part-owner and winemaker for Williams-Selym Winery; winemaker at Hartford Court and Alderbrook Wineries; and custom crush winemaker at Kunde Winery. Mr. Cabral also has extensive experience in vineyard development, farming and replanting vineyards, and marketing and sales for wine.

Because Mr. Cabral's opinions were obtained by and for the applicant, the County independently obtained the opinion and comments of Dr. Julian M. Alston and Dr. James T. Lapsley (see memorandum in **Appendix C** in this Addendum). Dr. Alston is a Distinguished Professor in the Department of Agricultural and Resource Economics at the University of California, Davis and the Director of the Center for Wine Economics at the Robert Mondavi Institute for Wine and Food Science. Dr. Lapsley is an Adjunct Professor in the Department of Viticulture and Enology at the University of California, Davis, where he has taught wine business and management for more than 20 years, and he is a researcher on wine and grape economics at the University of California Agricultural Issues Center. Dr. Alston and Dr. Lapsley have provided comments on Bob Cabral's opinion, as well as their own independent observations.



## Summary of Analysis of Growth Inducement in the Final EIR

Pursuant to CEQA *Guidelines* Section 15126.2(d), the Final EIR, Chapter VI, Impact Overview (pages VI-1 to VI-2) addressed the potential for construction and operation of the Project to foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment; or remove obstacles to population growth.

With respect to construction-related growth inducement, the Final EIR identified that the Project would generate on-site workers during the construction phases of the Project, but given the number of workers with applicable skills who reside in Sonoma County and environs, it was unlikely that a substantial amount of construction workers would relocate to the County to work on the construction of the proposed Project. With respect to long-term employment related growth inducement, the Final EIR disclosed that the new employment associated with operation of the Project would be relatively limited (three full-time employees year round, with up to four additional employees during harvest season). On these bases, the Final EIR disclosed that the Project would not be growth-inducing from a short-term construction employment perspective, or from a long-term employment perspective.

With respect to the potential for the Project to remove obstacles to growth, the Final EIR indicated that proposed utilities infrastructure improvements that would occur under the Project (including groundwater storage, rainwater harvesting and storage, winery process water treatment and storage facilities, domestic wastewater treatment and disposal facilities, and storm drainage improvements) would all be located on-site, and would be sized to adequately serve the proposed Project uses and existing Cornell Farms vineyards, with limited future expansion potential. Similarly, the Final EIR also disclosed that the proposed improvements to Spring Mountain Summit Trail would be designed to provide adequate emergency access and improve drainage, and would not increase traffic volume capacity on this roadway. On these bases, the Final EIR concluded that the Project would not remove obstacles to population growth.

## Environmental Setting

### Cornell Farms

#### ***Existing Cornell Farms Vineyards***

The Cornell Farms vineyard was completely established in 2004. Cornell Farms vineyard is approximately 20 acres (approximately 30,000 vines), planted in the following grape varietals: Cabernet Sauvignon (17 acres); Merlot (1 acre), Petit Verdot (1 acre); Malbec (one-half acre), and Cabernet Franc (one-half acre). The Cornell Farms vineyard is Certified Organic<sup>4</sup> and Certified Fish Friendly.<sup>5</sup> The Cornell Farms vineyards utilize a computer-based “Phytogram” system for application of water to the vines, which reduces the amount of water used. The Phytogram system

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<sup>4</sup> Cornell Farms was Certified Organic in July 2014 by California Certified Organic Farmers (CCOF) through its organic certification program; see <https://www.ccof.org/members/cornell-farms-llc-dba-cornell-vineyards-2>.

<sup>5</sup> Cornell Farms was Certified Fish Friendly in October 2014 by the California Land Stewardship Institute through its Fish Friendly Farming Environmental Certification Program.

uses electro-sensors to measure moisture in four discrete zones for grape vines: the soil, the cambium, the leaf petiole (stem) and the grape berry. This information is relayed to the grower remotely, and watering adjustments can be made as needed. Each vine block has its own Phytogram system, and each Phytogram system measures approximately 100 vines. As a result, the grower has detailed information on water needs and use for managing fruit ontogeny. The system is designed to provide the optimum amount of water required for optimum grape quality, and avoids over-watering.

The Project sponsor does not own any other vineyard besides that at Cornell Farms. Cornell Farms uses a full-time vineyard manager and crew for its vineyard (Cabral, 2015). The Cornell Farms vineyard is currently capable of producing approximately 100 tons of grapes per year. Cornell Farms does not sell its grapes to other wineries; rather, this fruit is used entirely to produce Cornell Farms' estate grown wine.<sup>6</sup> During harvest season (from mid-September through October of each year), grapes from Cornell Farms are typically either delivered by the Cornell Farms personnel or by outside company via truck to an off-site winery where Cornell Farms makes its wine (see *Existing Off-site Wine Production*, below, for additional detail).

### ***Existing Off-site Wine Production by Cornell Farms***

Historically, Cornell Farms has used off-site bonded wineries to produce its wine.<sup>7</sup> For the 2007 harvest (Cornell Farms' first commercial harvest) and 2008 harvest, Cornell Farms used its winemaker to produce its wine at an off-site bonded winery [although not under a formal alternating proprietorship (AP) agreement]. For the 2009 harvest season to present, Cornell Farms has produced its wine using its winemaker through use of APs.<sup>8</sup> From October 2009 to February 2014, Cornell Farms operated in an AP located at 51 Front Street in Healdsburg; and since February 2014, Cornell Farms has operated in an AP located at 335 West Lane in Angwin in Napa County.

Cornell Farms uses a full-time winemaker, a consulting winemaker, and marketing team. Cornell Farms wine is produced from Cornell's estate wine along with some fruit purchased from other vineyards. Cornell's wines are sold exclusively to private clients in China. None of the wine produced by Cornell Farms is labeled or designated as "estate bottled."<sup>9</sup>

<sup>6</sup> "Estate grown" wine refers to wine that comes from a vintner that controls all the grapes growing on its land but that may not have crush or bottling on the same property.

<sup>7</sup> A bonded winery is a commercial enterprise that produces and stores wine under a bond that guarantees payment of the federal excise tax. Bonded wineries are defined by the U.S. Department of Treasury, Alcohol and Tobacco Tax and Trade Bureau as "premises are established under the provisions of 27 CFR 24.107 on which wine production operations are conducted and other authorized operations may be conducted."

<sup>8</sup> In an alternating proprietorship, two or more wineries share (alternate) use of part of a bonded winery's premises and equipment. The host is a bonded winery, but the alternating proprietors are also bonded wineries.

<sup>9</sup> "Estate bottled" is a term that, if used on the wine label, means that 100 percent of the wine came from grapes grown on land owned or controlled by the winery, which must be located in a viticultural area (see definition of viticultural area, below). The winery and vineyard must be in the same viticultural area. 27 CFR 4.26.

## Fountaingrove District American Viticultural Area

### ***Existing Vineyards in Fountaingrove District AVA***

Cornell Farms is located within the newly-formed Fountaingrove District American Viticultural Area (AVA, or appellation). The Fountaingrove District AVA was approved by the U.S. Treasury Department's Alcohol and Tobacco Tax and Trade Bureau on March 20, 2015, and is the 17th AVA approved in Sonoma County.<sup>10,11</sup>

**Figure 3-1** illustrates the Sonoma County AVAs, including the new Fountaingrove District AVA. The Fountaingrove District AVA encompasses 38,000 acres in eastern Sonoma County, and lies east of the Russian River Valley AVA, north of the Sonoma Valley and Bennett Valley AVAs, and south of the Knights Valley and Chalk Hill AVAs. Bordering Napa County, the Fountaingrove District AVA also lies west of Napa County's Diamond Mountain and Spring Mountain AVAs.

The Fountaingrove District AVA contains approximately 35 commercially-producing vineyards covering a total of approximately 550 hillside acres. The Fountaingrove District AVA vineyards are typically small, ranging from less than 1 acre to 57 acres (with a median size of 12 acres), and almost all are family-owned. Most growers within the Fountaingrove AVA sell their grapes to wineries located outside the boundaries of the AVA.

A review of permits issued by the Sonoma County Agricultural Commissioner's Office indicates over the last three years since the EIR was certified, there have been six permit applications for vineyard planting or replanting within the Fountaingrove AVA, of which one was for Cornell Farms (replanting of 5.1 acres), four were for Pride Vineyard (new planting of 11.5 acres, and replanting of 9.8 acres), and 3.5 acres of new vineyard planting at 2015 Redwood Hill Road.

### ***Existing Wineries in Fountaingrove District AVA***

**Table 3-1** presents operating characteristics of approved winery use permits within the Fountaingrove District AVA in unincorporated Sonoma County. As shown in Table 3-1, the Fountaingrove District AVA contains ten approved small commercial wineries, with a total approved production capacity of approximately 91,000 cases per year. Aside from the proposed project, there are presently no other winery proposals within the Fountaingrove District AVA being processed by the County.

<sup>10</sup> Federal Register, Establishment of the Fountaingrove District Viticultural Area, <https://www.federalregister.gov/articles/2015/02/18/2015-03371/establishment-of-the-fountaingrove-district-viticultural-area#h-11>.

<sup>11</sup> A viticultural area for American wine is a delimited grape-growing region having distinguishing features as described in the Code of Federal Regulations (CFR) at 27 CFR part 9, and a name and delineated boundary as established in part 9 of the regulations. These designations allow vintners and consumers to attribute a given quality, reputation, or other characteristic of a wine made from grapes grown in an area to its geographic origin. The establishment of viticultural areas allows vintners to describe more accurately the origin of their wines to consumers and helps consumers to identify wines they may purchase. (U.S. Department of Treasury, Alcohol and Tobacco Tax and Trade Bureau website, <http://www.ttb.gov/wine/ava.shtml>)



SOURCE: Sonoma County Tourism; ESA, 2015

Henry Cornell Winery . 211996.02

**Figure 3-1**  
Sonoma County American Viticultural Areas

**TABLE 3-1  
WINERY USE PERMIT CHARACTERISTICS IN FOUNTAINGROVE DISTRICT AVA**

<b>Name</b>	<b>Address</b>	<b>Approved Production Capacity<sup>a</sup> (cases per year)</b>	<b>Tasting Room</b>	<b>Annual Events</b>
Adler Fels Winery	5235 Corrick Road	20,000	No	--
Alegre	4480 Wallace Road	4,167	No	--
Constant Diamond Mountain	2121 Diamond Mountain Road	5,000	No	--
Garric-Langbehn Winery	5400 Alpine Road	2,500	No	--
Hans Fahden Winery	4855 Petrified Forest Road	19,000	Open to Public	50
HLR Cellars	5136 Sharp Road	3,500	No	--
Fisher Winery	6200 St. Helena Road	7,000	No	--
Moon Star Winery	5580 Alpine Road	800	No	--
Pride Mountain Winery	3000 Summit Trail	23,000	By Appointment Only	--
St. Helena Road Winery	6999 St. Helena Road	<u>6,000</u>	No	--
		<b>90,967</b>		-

<sup>a</sup> Note: Approved capacity does not necessarily reflect constructed capacity.

SOURCE: Sonoma County, *Sonoma County Winery Approvals by Production Capacity (as of June 2014)*.

## Sonoma County

### *Existing Vineyards in Sonoma County*

Currently, 62,650 acres are planted to vineyards (bearing plus non-bearing) in Sonoma County (Sonoma County, 2015). Approximately 80 percent of vineyards in Sonoma County are 100 acres or less in size, and 40 percent of vineyards in Sonoma County are 20 acres or less in size. 85 percent of Sonoma County vineyards are family-owned and operated (Sonoma County Winegrape Commission, 2016). The largest five vineyard owners in Sonoma County (as of 2013) were Jackson Family Wines and E&J Gallo (each with approximately 3,200 acres), Silverado Premium Properties, and the Sangiacomo family and Ferrari-Carano winery (for a combined approximate 2,400 acres) (Press Democrat, 2013).

Sonoma County grows around 66 varieties of winegrapes, but seven varieties comprise more than 90 percent of the planted acres: Chardonnay (16,000 acres), Cabernet Sauvignon (12,000 acres), Pinot Noir (10,000 acres), Merlot (7,500 acres), Zinfandel (5,000 acres), Sauvignon Blanc (2,500 acres) and Syrah (1,820 acres) (Sonoma County Tourism Bureau, 2016).

**Table 3-2** presents a comparison of vineyard acreage of Cornell Farms property with that of the Fountaingrove District AVA and Sonoma County as a whole. As shown in Table 3-2, approximately 1.4 percent of the total Fountaingrove District AVA acreage is planted with vineyards, less than the approximate 6.0% of total Sonoma County acreage planted with vineyards. Cornell Farms' vineyard accounts for 3.6 percent of total vineyard acreage in the Fountaingrove District AVA, and the Fountaingrove District AVA accounts for 0.9 percent of the total vineyard acreage in Sonoma County.

**TABLE 3-2  
COMPARISON OF VINEYARDS:  
CORNELL FARMS, FOUNTAINGROVE DISTRICT AVA, AND SONOMA COUNTY**

	Acreage			Percentage	
	Cornell Farms Property	Fountaingrove District AVA	Sonoma County Total	Cornell Farms as % of Fountaingrove District AVA	Fountaingrove District AVA as % of Sonoma County
Total Acreage	215	38,000	1,050,000	0.6%	3.6%
Acres Planted to Vineyards	20	550	62,650	3.6%	0.9%
% Planted to Vineyards	9.3%	1.4%	6.0%		

SOURCE: Cornell Farms; Sonoma County, *Sonoma County Crop Report 2014, 2015*

### ***Existing Wineries in Sonoma County***

**Table 3-3** provides a comparison of existing wineries and total approved annual production capacity in the Fountaingrove District AVA with that of Sonoma County as a whole. As shown in Table 3-3, there are currently 439 wineries approved to operate in unincorporated Sonoma County; of these 44 can be characterized as large production wineries (over 100,000 cases annually), 95 are medium-sized production wineries (25,000 to 100,000 cases annually), and the remaining 300 are small production wineries (under 25,000 cases per year). Eleven of the large wineries in Sonoma County have an approved production capacity of over 1,000,000 cases per year (the largest is approved for 4.9 million cases per year) and account for nearly two-thirds of the total production capacity in the County.

As shown in Table 3-3, the wineries located within the Fountaingrove District AVA account for 2.3 percent of the total wineries in Sonoma County, and account for only 0.2 percent of total wine production capacity in the County.

**TABLE 3-3  
COMPARISON OF WINERIES AND PRODUCTION CAPACITY:  
FOUNTAINGROVE AVA AND UNINCORPORATED SONOMA COUNTY**

	Fountaingrove District AVA	Sonoma County Total	Fountaingrove District AVA as % of Sonoma County
Number of Wineries	10	439	2.3%
Approved Winery Production Capacity <sup>a</sup> (cases per year)	90,967	44,143,503	0.2%

<sup>a</sup> Note: Approved capacity does not necessarily reflect constructed capacity.

SOURCE: Sonoma County, *Sonoma County Winery Approvals by Production Capacity (as of June 2014)*.

### **Trends in Vineyard Growth and Production in Sonoma County**

Vineyard acreage in Sonoma County has grown more than fivefold since 1960, but has remained relatively flat over the past decade. **Table 3-4** presents the vineyard acreage and production in Sonoma County between 2005 and 2014. As shown in Table 3-4, between 2005 and 2014, vineyard acreage fluctuated slightly from year to year, with the total vineyard acreage increasing by only approximately 0.8 percent.<sup>12</sup> The leveling off in vineyard acreage in the County reflects that most land in the County that could be easily developed for grapes has already been planted. Increasingly stringent regulations applicable to new vineyard development in the County and concerns over water availability also limit development. As a general matter, most Sonoma land that is well-suited for economical development as vineyards has already been planted (Alston, Lapsley, 2015).

As shown in Table 3-4, over the same period, the percent increase in the volume (9.7 percent increase) and value (27.4 percent increase) of grape production in the County were comparatively higher.

**TABLE 3-4  
VINEYARD ACREAGE AND PRODUCTION IN  
SONOMA COUNTY: 2005 - 2014**

Year	Acres			Production	
	Bearing	Non-Bearing	Total	Tons	Total Value
2005	57,050.4	5,095.6	62,146.0	230,910	\$430,563,500
2006	55,507.2	4,795.2	60,302.4	216,248	\$430,496,900
2007	54,862.3	6,029.8	60,892.1	198,533	\$416,549,600
2008	55,431.4	6,540.2	61,971.6	168,992	\$381,092,000
2009	56,306.0	6,601.1	62,907.2	212,675	\$465,036,400
2010	56,522.2	3,137.3	59,659.5	191,876	\$390,448,300
2011	57,809.6	2,077.8	59,887.4	166,619	\$347,080,300
2012	58,348.8	869.9	59,218.7	267,062	\$582,942,100
2013	59,771.7	4301.5	64,073.3	270,609	\$605,068,400
2014	58,280.4	4370.2	62,650.6	255,635	\$592,798,000
		Average	61,371	217,916	\$464,207,550
		2005 – 2014 Increase	+0.8%	+9.7%	+27.4%

SOURCE: Sonoma County Agricultural Commissioner, *Sonoma County Crop Report*, Years 2005 through 2014

<sup>12</sup> A comparative review of annual *Grape Acreage Reports* published by the California Department of Agriculture revealed a similar trend in annual fluctuations in Sonoma County between 2005 and 2014, with a slightly higher total increase in vineyard acreage in that duration (approximately +2.8 percent, versus +0.8% estimated by the Sonoma County Agricultural Commissioner).

## Relevant Plans and Regulations Governing Vineyards in Sonoma County

### ***Sonoma County General Plan***

Applicable *Sonoma County General Plan 2020* land use designations for the Cornell Farms property parcels is presented in the Section 2, Project Description. All Cornell Farms vineyards are located on land designated by the *Sonoma County General Plan 2020* as Resource and Rural Development (RRD).

The Final EIR, and the Initial Study/Mitigated Negative Declaration completed for the Project prior to that, discussed a number of *Sonoma County General Plan* goals, objectives and policies related to agriculture, land use, geology and soils, surface and groundwater hydrology and water quality, biological resources and public safety. Many of these goals, objectives and policies are also relevant to vineyard development and operation. Accordingly, this Addendum incorporates those goals, objectives and policies by reference.

### ***Sonoma County Zoning***

Applicable County zoning designations for the Cornell Farms property parcels are presented in Section 2, Project Description Updates, in this Addendum. All Cornell Farms vineyards are located on land zoned by the County as Resource and Rural Development (RRD). The growing and harvesting of vineyards, conducted and maintained in compliance with Article 65, Riparian Corridor (RC) Combining Zone, is permitted on RRD zoned land. The growing and harvesting of vineyards in compliance with Article 65 is also permitted under several other County zoning designations, including Land Intensive Agriculture District (LIA), Land Extensive Agriculture District (LEA), Diverse Agriculture District (DA), Agriculture and Residential District (AR), Rural Residential District (RR), Planned Community District (PC), Agricultural Services District (AS), and Recreation and Visitor-Serving Commercial District (K).

As discussed in Section 2, several Cornell Farms parcels contain RC and/or BH Combining Zones. The RC Combining Zone is established to protect biotic resource communities, including critical habitat areas within and along riparian corridors, for their habitat and environmental value, and to implement the provisions of the General Plan Open Space and Resource Conservation and Water Resources Elements. Except as allowed by Section 26-65-040, grading, vegetation removal, agricultural cultivation, structures, roads, utility lines, and parking lots are prohibited within any stream channel or streamside conservation area. The BH combining zone is established to protect and enhance Biotic Habitat Areas for their natural habitat and environmental values and to implement the provisions of the General Plan Open Space and Resource Conservation Element, Area Plans and Specific Plans. Protection of these areas helps to maintain the natural vegetation, support native plant and animal species, protect water quality and air quality, and preserve the quality of life, diversity and unique character of the County.



### **Sonoma County Grading, Drainage, & Vineyard & Orchard Site Development Ordinance (VESCO)**

As discussed in the Final EIR, Chapter 11 of the Sonoma County Code of Ordinances includes regulations and requirements covering grading, drainage and vineyard and orchard site development. Under a County ordinance originally adopted by the Sonoma County Board of Supervisors in 2000, prior to developing and planting, or replanting a vineyard, an application and plans are reviewed for approval by the County Department of Agriculture / Weights & Measures. The purpose of the ordinance is to assist in preventing soil erosion and protect water quality and other natural resources. In 2008, the Vineyard Erosion and Sediment Control Ordinance (VESCO) was updated to include requirements and review of orchard planting and agricultural grading and drainage. During 2012, the Ordinance was further enhanced by adding standards to address potential erosion when Projects involve the removal of trees. These standards incorporate engineering geologist review for areas of instability and use of Universal Soil Loss Equation or Revised Universal Soil Loss Equation to show no net increase in erosion from pre-development. Growers planting new vineyards or replanting existing vineyards are required to meet standards within the Sonoma County Code and comply with requirements including best management practices (BMPs) as established in the Agricultural Commissioner's BMP guidelines. Growers may seek relief from these standards, but any such relief is discretionary and thus renders the permit subject to CEQA review.

## **Impacts and Mitigation Measures**

### **Significance Criteria**

Section 15126(d) of the CEQA Guidelines require a discussion of growth-inducing impacts of the proposed Project. As discussed under *Summary of Analysis of Growth Inducement in the Final EIR*, above, the Final EIR addressed the potential for construction and operation of the Project to foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment; or remove obstacles to population growth, and found these effects to be less than significant.

Section 15126.2(d) of the CEQA Guidelines also requires discussion of the characteristic of some Projects to encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. For the purposes of this Addendum, the Project would have a significant impact if it were to substantially encourage and facilitate vineyard growth on- or off-site that would result in significant environmental effects.

**Impact V.1: The proposed Project would not substantially encourage or facilitate vineyard growth on-site or off-site. This is a less than significant impact.**

*Relocation of existing wine production operations to the Project site would not increase the production of on-site grapes or lead to growth inducement for on-site vineyards.*

Under the Project, Cornell Farms would relocate its current wine production operations from an off-site facility in Angwin to a proposed custom built winery at the Project site. The proposed winery

would have a maximum production capacity of 10,000 cases a year. As discussed in the Final EIR, one of the sponsor's fundamental Project objectives for operating its own on-site custom built wine production facility (e.g., small fermentation tanks) is to provide maximum flexibility and control in Cornell Farms winemaking operations to provide optimum wine quality. Another of the sponsor's objectives is to develop on-site caves to provide optimum cellar conditions for wine on-site (e.g., temperature and humidity). These objectives are related to wine production, not grape harvesting.

Under the Project, Cornell Farms would continue to use primarily its own grapes from its existing vineyard, along with grapes purchased from other vineyards, to produce its wine. As under existing conditions, the wine that Cornell Farms would produce at the proposed winery would not be designated as estate bottled. Under the maximum annual production scenario, Cornell Farms would use approximately 100 tons of grapes from its vineyard, along with approximately 50 tons of grapes from one or more off-site vineyards. Grapes would be purchased from owners of other vineyards. Yield per acre can vary based on many factors such as weather, varietal, age of the vines, location, and winery program, but using a very approximated range of 3-5 tons of grapes per acre<sup>13</sup>, approximately 10-17 acres of vineyard would be needed to produce 50 tons of grapes from off-site sources under the maximum annual production scenario. However, although converting the grapes required to acreage is possible in very rough terms, there is no basis to conclude that grapes for the Project would come from new vineyards on-site.

For the purposes of analyzing incentives narrowly with respect to the present applicant and the Project Sponsor's properties (i.e., the issue of whether the winery would facilitate more on-site vineyards), the Project sponsor has explicitly stated that it does not plan to expand the existing vineyard as part of the Project, or otherwise (Cabral, 2015). The Superior Court suggested that Cornell's property ownership yielded "a distinct possibility that the project may lead to vineyard development." Because the inference appears to have been suggested by the Superior Court, County staff notes that staff does not conclude that the Project Sponsor simply lacks credibility and does not conclude the Project Sponsor intends to plant more vineyards on recently purchased parcels. While the Project sponsor has purchased additional land, the Project sponsor's explanation is that these purchases have to do with neighbor relations and not plans for additional vineyard development. As described in the Project Description, since February 2012, Cornell Farms acquired a number of parcels in a single transaction, including 115 Spring Mountain Summit Trail; and 8450, 8545, 8516 and 8565 St. Helena Road properties.<sup>14</sup> Two of the properties (115 Spring Mountain Summit Trail and 8545 St. Helena Road) totaling 26 acres are located adjacent to the west side of Spring Mountain Summit Trail which provide access to its vineyard and proposed winery. The other three parcels (8450, 8516 and 8565 St. Helena Road) are small, totaling approximately 2.4 acres, and located alongside Mark West Creek. As discussed in the Project Description all of the small parcels in these 2.4 acres are located either partially or completely within County designated Riparian Corridor (RC) and/or Biotic Habitat (BH) combining zones, which limits their development

<sup>13</sup> Estimated range based on production data from Table 3-4, an average provided by the Sonoma County Grape Growers Association (undated), as well as on inquiries to vineyard managers.

<sup>14</sup> APNs 028-250-006 (115 Spring Mountain Summit Trail), 028-250-012 (8450 St. Helena Road), 028-250-014 (8545 St. Helena Road), 028-250-017 (8516 St. Helena Road), and 028-250-018 (8565 St. Helena Road).

potential as vineyards or otherwise. The reason for this transaction as a whole was so that Cornell Farms would have sole use of the private road (Cabral, 2015).

The Project sponsor or a successor in interest has the ability to apply for future ministerial vineyard permits, or alternatively, future discretionary vineyard permits that seek relief from standards imposed under Chapter 11 of the County Code (that is, vineyard permits that are subject to CEQA), and as is always the case, the Project sponsor will have the ability to pursue other projects not currently anticipated. The fact that the Project sponsor has this ability does not mean that these applications are reasonably foreseeable, nor that additional vineyard planting would be feasible, as is discussed below.

Cabral states that further development of vineyards on the Project sponsor's lands is economically infeasible. As Cabral points out, Chapter 11 of the County Code would require site specific investigation to determine whether or how a vineyard could be constructed. Vineyard permitting is administered by the County Department of Agriculture and the Agricultural Commissioner, and based on a high level review of slopes in the area, Agricultural Commissioner staff has concluded that an applicant would be unlikely to ever apply to develop more than approximately 85 acres of the Project Sponsor's land based solely on slope (i.e., the area is over 50% slope). The Department of Agriculture's staff concurs that beyond that, the development potential of any of the Project site's acreage is speculative. A site-specific comprehensive investigation would have to be undertaken to consider other factors affecting suitability for vineyards, including soil, drainage, engineering, sun exposure, and other considerations (Cabral, 2015). There are many factors which can rule out land being suitable for vineyard development, including, but not limited to, excessive slope or topography, presence of sensitive biological habitat, creeks, wetlands, and trees.

More generally, vineyard ownership provides some advantages to high end winemakers, because there is direct control of grape development and the ability to select the very best grapes from the vineyard (Cabral, 2015). However, this advantage is largely unrelated to the presence or absence of an on-site winery. Trucking costs are nominal, and these costs are not a driver for co-location of vineyards and wine production facilities in this case (Cabral, 2015). Although wineries near vineyards can provide an "estate" winery environment for marketing, this does not depend upon a specific vineyard acreage, and vineyards are already present. The Project sponsor would allow limited tastings and events, and in the judgment of County staff additional vineyards would not be necessary to facilitate this type of marketing.

Cabral notes that the Project sponsor had previously explored developing a portion of the 100 Spring Mountain Summit Trail parcel for additional vineyards, and found it was not actually feasible. This is consistent with Dr. Alston and Dr. Lapsley's economic observation that wine production facilities are not a constraint on the Project sponsor's wine production. They conclude: "[i]f it made economic sense for Cornell Farms to expand its vineyards... this probably would have already occurred. The economic question of whether to expand vineyards has everything to do with the profitability of sales and little or nothing to do with the location of a processing site" (Alston, Lapsley, 2015). Dr. Alston and Dr. Lapsley further observe that the only thing that the on-site production provides to the on-site vineyards that is not already present is the ability to use

the “estate bottled” label under federal regulations, which appears to them to make little difference. Dr. Alston, Dr. Lapsley, and County staff agree that asserting that “wineries cause vineyards” misunderstands economic causation. Dr. Alston and Dr. Lapsley explain that since the profitability of wine sales is what will determine whether Cornell Farms find it profitable to expand vineyard acreage, and since alternative wine production facility availability is not a constraint (i.e., winery facilities or their equivalent): “we conclude that the granting of the application and the construction of a processing facility as proposed would NOT, by itself, have an effect on vineyard development” (Alston, Lapsley, 2015). Economic demand for grapes, which may increase or decrease, will determine the profitability of vineyard planting. This demand is not related to the presence or absence of this particular winery.

The fact that the proposed winery would have a greater annual maximum production capacity than what Cornell Farms vineyard can produce on-site does not lead to the inference that the winery plans to develop more vineyards to utilize that capacity (Cabral, 2015). From a business perspective, it is reasonable to use a winery with production capacity beyond what would be required to process the grapes currently grown on-site, as it allows Cornell Farms the option of producing additional products using grapes from other locations (Alston, Lapsley, 2015). In California, it is rare for a winery with a production capacity greater than a few hundred cases to only produce wine from a single estate location where the winery is located. Most wineries work with grapes from multiple sources, as opposed to a single source. Wineries that emphasize an “estate” wine program (where all wine comes from vineyards that are owned or controlled by the winery) typically have “estate” vineyards they own in other places apart from whatever vineyards may be on the actual winery site (Cabral, 2015).

Wineries typically produce a variety of wines, and not all varieties of grapes can successfully be grown in the vicinity of Cornell Farms. From a winemaking perspective, the use of grapes from multiple sources provides opportunities to blend wines from various sites into a single wine (e.g., to make a more complex wine). In addition, from a winery sales and marketing perspective, it provides the wine consumer with additional wine choices. Consequently, wineries typically source fruit from other locations to develop another product to consumers, as opposed to planting grape varieties which would not do well at their site, or planting a variety which would grow well at their site but which the winery does not need (Cabral, 2015). The Project sponsor believes the grapes produced from the existing Cornell Farms vineyard are sufficient for the winery (Cabral, 2015), and it is not at all unusual for grapes to be bought and sold. Control of vineyards may be related to the control of grape quality. If the Project sponsor changes its mind and elects to directly control more vineyards in the future, it would be speculative to conclude where these would be located, and it would be speculative to conclude that these acquisitions would be new rather than established vineyards. Given all of these factors, County staff concludes the Project would not increase the demand for production of Cornell Farms grapes, and consequently, would not encourage or facilitate vineyard growth on-site.

*The continued and potential increase in Project demand for grapes from off-site vineyards to produce Cornell Farms wine would not be substantial.*

The proposed winery is not expected to affect demand for grapes either within the newly established Fountaingrove District AVA, or in neighboring AVAs (e.g., Spring Mountain District AVA in Napa County) (Alston, Lapsley, 2015).

With a maximum production of 10,000 cases per year, the proposed winery would be in the same production range as the approximate 300 other small-production wineries operating in Sonoma County, and certainly less than the medium-size wineries in the County which produce up to 100,000 cases per year, or the large production wineries in the County (some of which produce up to a million cases or more per year).

As discussed above, Cornell Farms currently supplements its grapes with grapes purchased from other vineyards to produce its wine, and would continue this practice under the Project. Under the maximum annual production scenario, Cornell Farms would use approximately 100 tons of grapes from its vineyard, along with approximately 50 tons of grapes from one or more off-site vineyards. Within the Fountaingrove AVA, there are approximately 530 acres of existing vineyards (not including the Cornell vineyards), which could produce approximately 1,590 to 2,650 tons of grapes, or 106,000 to 176,000 cases of wine.<sup>15</sup> With approximately 91,000 cases of approved capacity in the unincorporated area of the AVA, grape production exceeds processing capacity within the unincorporated area of the AVA. Accordingly, it is speculative to conclude the project's demand for off-site grapes would be from new rather than existing vineyards. The contribution to demand is small, and as importantly for growth inducement, demand for grapes is a function of economic conditions that affect the demand for wine, not simply a function of winery capacity (Alston, Lapsley, 2015).

Given the small Project demand for off-site grapes and abundance of options for purchasing grapes from off-site vineyards, the Project would not in and of itself encourage or facilitate vineyard growth.

*The number of wineries and vineyard acreage in Sonoma County are not related.*

Dr. Alston and Dr. Lapsley note that “Although it may seem counterintuitive, there seems to be no relationship between the number of bonded wineries in Sonoma County and Sonoma County grape acreage” (Alston, Lapsley, 2015). Based on a review of a database of winegrower license<sup>16</sup> holders (current to July 2012), derived from the California Department of Alcoholic Beverage Control, in 2002, Sonoma County had 126 distinct license holders (i.e., not including duplicate

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<sup>15</sup> One case of wine contains an estimated 30 pounds of grapes based on averages from the Sonoma County Grape Growers Association (undated). 2000 pounds per ton/30 pounds per case= 66.67 cases per ton.

<sup>16</sup> Winegrower (Winery) licenses are issued by the California Department of Alcoholic Beverage Control. Winegrower licenses authorize the sale of wine to consumers for consumption off premises and in licensed on-site premises; authorize possession of wine for use in preparation of food and beverage in licensed on-site premises; and allow for winetasting to be conducted under prescribed conditions. [California Department of Alcoholic Beverage Control handout ABC-616 (01-15)].

licenses for retail sales). In that same year, according to the Sonoma County Crop Report, Sonoma County had 59,891 acres of winegrapes (bearing plus non-bearing acres). A decade later in 2012, the number of winegrower licenses in Sonoma County had increased to 628 (almost 400%) but the vineyard acreage (59,219 acres) in the County was still similar to that in 2002.

Demand for grapes is reflected in grape prices. As discussed in the Setting, the primary grape varietal grown at Cornell Farms (85 percent of its vineyard) is Cabernet Sauvignon. In 2002, the average price per ton of Sonoma County Cabernet Sauvignon was \$2,690, while a decade later, in 2012, the average price had declined to \$2,313 (Source, CDFA Grape Crush Reports, 2002 and 2012). Prices for winegrapes from premium regions like Sonoma<sup>17</sup> have improved somewhat since then, and in 2014 the average price per ton of Sonoma County Cabernet Sauvignon was \$2,614<sup>18</sup> (Alston, Lapsley, 2015).

From the above-reported acreages and price figures, it appears the demand for Sonoma County grapes in general, and Cabernet Sauvignon in particular, has not grown appreciably since the early part of this century, despite an increase in the number of wineries. Dr. Alston and Dr. Lapsley conclude that the approval of the Project would not have “any impact on the demand for Sonoma County grapes” (Alston, Lapsley, 2015).

*Additional potential for vineyard growth in Sonoma County, including the Project site, would be limited by regulatory, environmental, and economic constraints.*

For the reasons explained above, the Project is not expected to induce vineyard growth on- or off-site. Regardless, additional vineyard growth in Sonoma County is anticipated to be limited. As explained in the Setting, while Sonoma County experienced substantial vineyard growth, particularly over the last half of the last century, over the past decade vineyard growth has remained relatively flat. The leveling off in vineyard acreage in the County reflects conditions that most land in the County that could be easily developed for grapes has already been planted. In addition, increasingly stringent regulations governing hillside development, including the Vineyard Erosion and Sediment Control Ordinance (VESCO), associated prohibitive cost constraints, and concerns over water availability are expected to continue to curb the rate of new vineyard development in the County.

The Cornell Farms vineyard was originally planted at a time when vineyard development costs were dramatically lower than they are presently, with typical costs for development of mountain vineyards estimated at \$35,000 to \$45,000 per acre. Currently, typical costs to install a high quality mountain vineyard can easily exceed \$200,000 per acre. Moreover, when considering current regulations such as VESCO, and in particular its tree removal provisions, estimated costs for new vineyard development at the Project site could be expected to be even higher. The Project sponsor believes the potential costs associated with new vineyard development on the Project site would be economically infeasible (Cabral, 2015).

<sup>17</sup> Alston, J.M., K. Anderson, and O. Sambucci. “Drifting Towards Bordeaux: The Evolving Varietal Emphasis of U.S. Wine Regions.” *Journal of Wine Economics* 10(2016b): In Press.

<sup>18</sup> Note: These are nominal prices and not adjusted for inflation.

Others factors that could also require consideration for any potential expansion of vineyards on the Project site would be additional water demand for vineyard irrigation and associated potential effects on hydrologic and biological conditions in the Mark West Creek watershed. Any request for relief from standards imposed pursuant to Chapter 11 of the County Code would require compliance with CEQA.

Future regulatory requirements are expected that would likely have an impact on development feasibility at some point, but the nature of these future requirements is speculative. In particular, SB 390 (1999) required the Regional Water Boards to review their existing waivers and to renew them or replace them with Waste Discharge Requirements (WDRs). Some regional water boards have completed this process, and some have not. The North Coast Regional Water Quality Control Board and San Francisco Regional Water Quality Control Board have not yet completed this process for agricultural waivers (“irrigated lands” waivers) or WDRs, but plan to do so in the near term. In the interim, the Regional Boards have required individualized conditional waivers to WDRs or WDRs for some projects. When the WDRs or conditional waivers issue, this may affect the economics and feasibility of site development.

Given all the reasons described above, regardless of the fact that the project is not expected to induce vineyard growth on the Project site, it is speculative as to whether additional new vineyard development would be feasible from an environmental, technical or economic perspective.

### **Conclusion**

For the reasons described above, the Project is not expected to encourage or facilitate vineyard growth on-site or off-site. The Project is not expected to make a cumulatively considerable contribution to any existing and on-going cumulative effects associated with vineyard growth. Therefore, this impact would be less than significant.

On the basis of the information provided above, there are no substantial changes proposed in the Project, or substantial changes with respect to the circumstances under which the Project is undertaken, that would require major revisions to the Final EIR due to the involvement of new or substantially more severe impacts on cumulative vineyard growth. In addition, there is no new information that shows the Project would have any new or substantially more severe impacts on cumulative vineyard growth, or that new mitigation measures or alternatives would be required.

**Mitigation:** None Required.

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## B. Traffic-Related Impacts and Road Degradation

### Introduction

In response to the Superior Court’s Statement of Decision (No. SCV-252985), this Addendum provides additional analysis of Project traffic-related impacts and road degradation, and responses to comments on traffic impacts. This section first summarizes how traffic-related impacts and road degradation were addressed in the Final EIR, and the conclusions reached. Next, the Addendum updates and expands transportation setting information from the Final EIR as applicable, including on existing roadway conditions, traffic volumes, and collision history. The Addendum then updates and expands the discussion of transportation related impacts from the Final EIR, including Project construction traffic-related impacts and road degradation, and Project operational traffic-related impacts.

### Summary of Analysis of Traffic-Related Impacts and Road Degradation in the Final EIR

The Final EIR reported that based on substantial evidence provided or cited in the 2010 Initial Study/Mitigated Negative Declaration, the proposed Project would not result in any of the following: conflict with adopted transportation plans, ordinances or policies establishing measures of effectiveness of the circulation system; conflict with applicable congestion management program; or conflict with adopted policies, plans or programs regarding public transit, bicycle or pedestrian facilities or decrease the performance or safety of those facilities. The 2010 Initial Study/Mitigated Negative Declaration also concluded that the Project would not affect air traffic patterns; increase hazards due to a design feature or incompatible uses; or result in inadequate parking capacity. Nevertheless, the Final EIR provided supplemental information, including current traffic conditions of St. Helena Road, Project vehicle trip generation during construction and operation, and potential Project construction and operational effects on roadway operations and traffic safety. The Final EIR concluded that because Project construction traffic would be temporary and intermittent, it is considered less than significant, and no mitigation was required. However, the Final EIR also noted that because Project construction traffic would have some adverse effect on traffic flow on roadways serving the site, the County shall require as a condition of approval that off-site transport of materials and equipment to and from the site should be limited to off-peak traffic periods. The Final EIR also concluded that Project operational trips would not contribute substantially to daily traffic volumes or have an adverse effect on traffic flow on St. Helena Road; and that Project impacts on traffic safety on area roadways would be less than significant.

### Environmental Setting

#### Transportation Network

St. Helena Road is a winding, mountainous two-lane rural roadway that provides access to the Project site, connecting to Santa Rosa and other points west, and to Napa Valley to the east (the road names changes to Spring Mountain Road at the Sonoma/Napa county line). The *Sonoma County General Plan 2020* classifies St. Helena Road as a “rural minor collector” between Santa



Rosa and the Sonoma-Napa County line (Sonoma County, 2008). St. Helena Road has no shoulders. Travel lanes vary between 8 and 10 feet in width, with some narrower stretches. The posted speed limit on St. Helena Road is 40 miles per hour (mph), with several signed advisory 25 to 30 mph curves. Signage is also posted on St. Helena Road advising against use of the road by two-axle trucks over 30 feet in length, and three- to four-axle truck/trailers totaling over 40 feet in length.

Field observations made by ESA’s senior transportation engineer Jack Hutchison, P.E., on September 14, 2015 indicate that the pavement on St. Helena Road is fair-to-poor, with sections of “alligator cracks” and pothole patching. The Sonoma County 2014 Section PCI/RSL<sup>19</sup> Listing indicates that sections of this road (Functional Class L-Local) had a PCI rating ranging from 26 to 52, and an RSL ranging from less than one year to 11 years.<sup>20</sup> Sonoma County has a two-year pavement preservation program that funds road preservation, repair and reconstruction, with priority given to the most heavily-traveled and economically-important roads. St. Helena Road is not included in the current two-year program, but receives pothole patching as part of the Sonoma County Department of Transportation and Public Works (DTPW) ongoing road maintenance activities. DTPW Maintenance crews have made eight visits to St. Helena Road since March 14, 2014 for pothole patching.

## Existing Traffic Volumes

In order to characterize existing traffic conditions on St. Helena Road, vehicle classification counts were conducted on St. Helena Road at three locations (east of Calistoga Road, near Spring Mountain Summit Trail, and west of Spring Mountain Road) from Wednesday, September 9 through Tuesday, September 15, 2015, using automatic 24-hour count machines (see **Appendix D** for traffic count data). Weather conditions were generally clear on these days. **Table 3-5** presents existing traffic volumes on St. Helena Road. The relatively low daily and peak-hour traffic volumes indicate that St. Helena Road primarily serves local traffic, and does not serve as a principal tourist route between Sonoma and Napa valleys. **Table 3-6** presents truck axle classification percentages on St. Helena Road. As shown in Table 3-6, trucks (i.e., from “2-axle/6 tires” to “4-axle”) represent about nine percent of the daily traffic volumes.

**TABLE 3-5  
EXISTING TRAFFIC VOLUMES ON ST. HELENA ROAD**

Count Location	Weekdays		Saturday		Sunday	
	Daily	Peak Hour	Daily	Peak Hour	Daily	Peak Hour
East of Calistoga Road	1,130	102	1,016	76	700	54
West of Spring Mountain Summit Trail	600	60	535	50	360	30
West of Spring Mountain Road	640	60	620	70	400	42

<sup>19</sup> PCI = Pavement Condition Index; RSL = Remaining Service Life.

<sup>20</sup> The PCI provides a numerical rating for the condition of road segments within the road network, where 0 is the worst possible condition, and 100 is the best.

**TABLE 3-6  
TRUCK AXLE CLASSIFICATION PERCENTAGES ON ST. HELENA ROAD**

Count Location	Weekday ADT	Total Trucks	Total Truck %	Truck Axles		
				2	3	4
East of Calistoga Road	1,130	101	9%	89	5	7
West of Spring Mountain Summit Trail	600	54	9%	48	3	3
West of Spring Mountain Road	640	59	9%	52	2	5

## Traffic Index

A method of judging the effect of increased truck traffic on pavement conditions is to compare Traffic Index (TI) values for existing conditions versus existing-plus-Project conditions. Traffic Index (or TI) is a logarithmically-based scale that indicates the ability of the pavement structure to support repetitive wheel and axle loads of large trucks, given a sound structural roadway sub-base. The TI values are calculated using procedures specified in the Caltrans Highway Design Manual (HDM), based on a 20-year roadway design period (the standard period used by Caltrans), and average daily truck traffic volumes. Topic 613 (Traffic Considerations) in Chapter 610 (Pavement Engineering Considerations) of the HDM states that truck traffic is the primary factor affecting pavement life; passenger cars and pickups are considered to have a negligible effect. The TI values for the three study segments range from 7.0 to 7.5 (see Impacts Section, below for TI calculations).

## Collision History

Three full years of collision records (2012-2014) were obtained from the California Highway Patrol for St. Helena Road (between Calistoga Road and Spring Mountain Road) in Sonoma County, and for Spring Mountain Road (between St. Helena Road and Madrona Avenue) in Napa County.<sup>21</sup> **Table 3-7** presents a collision history summary on St. Helena Road and Spring Mountain Road in the Project area. As shown in Table 3-7, there was an average of fewer than one recorded collision per year over the 1.1-mile stretch of road of St. Helena Road between Calistoga Road and Erland Road, a little more than two recorded collisions per year over the 5.7-mile stretch of road of St. Helena Road between Erland Road and Spring Mountain Road, and four recorded collisions per year over the 5.3-mile stretch of road of Spring Mountain Road between St. Helena Road and Madrona Avenue. Taking into account the average daily traffic volumes, those collisions translate to an accident rate of about 1.47, 1.87 and 3.23 accidents per million vehicle miles traveled (MVMT), respectively, for the three segments. As shown in the table, those accident rates are higher than the latest Caltrans-published accident rate for two-lane roads in Sonoma County (i.e., 1.08 accidents per MVMT), higher than the accident rate for two-lane roads in Napa County (i.e., 1.40 accidents per MVMT), and higher than the statewide accident rate for two-lane roads (i.e., 1.01 accidents per MVMT).

<sup>21</sup> At the time the collision data was provided by the CHP (July 2015), 2015 records were available only through April 2015, and it was decided to present only full-year data.

**TABLE 3-7  
COLLISION HISTORY ON ST. HELENA ROAD AND  
SPRING MOUNTAIN ROAD IN PROJECT AREA**

Roadway Segment	Distance (miles)	Number of Accidents			2012-2014 Average	Accident Rate (per MVMT) <sup>a</sup>
		2012	2013	2014		
St. Helena Road (Calistoga Rd. to Erland Rd.); Sonoma County	1.1	0	1	1	0.7	1.47
St. Helena Road (Erland Rd. to Spring Mountain Rd.); Sonoma County	5.7	2	5	0	2.3	1.87
Spring Mountain Road (St. Helena Rd. to Madrona Ave.); Napa County	5.3	2	5	5	4.0	3.23
<b>Accident Rates – 2012 (accidents per million vehicle miles traveled)</b>						
Sonoma County Average: 2-lane roads						1.08
Napa County Average: 2-lane roads						1.40
Statewide Average: 2-lane roads						1.01

<sup>a</sup> MVMT = Million Vehicle Miles Traveled

SOURCES: ESA 2015, using data from California Highway Patrol, 2015; Caltrans, *2012 Accident Data on California State Highways*, 2015.

The collision data reveals that during the reporting period, two-thirds of the total collisions on St. Helena Road/Spring Mountain Road involved a single-vehicle hitting an object. The majority of single-vehicle collisions involved either an automobile or pickup truck. One single-vehicle collision involved a tractor trailer (attributed to unsafe speed) and one single-vehicle collision involved a bus (attributed to improper turning).

The balance (one-third) of the total collisions on St. Helena Road/Spring Mountain Road during the reporting period involved collisions between two parties. Over half of these two-party collisions involved automobile/pickup trucks with other automobile/pickup trucks, with driving on the wrong side of the road, unsafe speed or stop sign/signal cited as the primary factors. Two of the collisions involved an automobile and bicyclist, and one collision involved a tractor-trailer truck and pickup truck (attributed to driving on the wrong side of the road).

Amount of daylight and weather conditions were not factors in the great majority of the reported collisions on St. Helena Road/Spring Mountain Road; approximately 90 percent of the collisions occurred during daylight hours, with weather conditions being clear and dry.

## Impacts and Mitigation Measures

In response to the Superior Court's Statement of Decision (No. SCV-252985), this Addendum presents additional environmental analysis of the Project's effect on traffic related impacts and road degradation, and responses to comments on traffic impacts (specifically responses to Comments C-2, D-3, E-58, E-59, E-60, F-64 and H-14), which address estimated construction traffic, road degradation, traffic safety, and truck trips during peak traffic hours).

## Vehicle Trip Generation

### ***Project Construction Vehicle Trip Generation***

As described in the Final EIR, construction of the winery would occur over an approximately 19-month period. Construction activities that would generate off-site traffic would include the daily arrival and departure of construction workers, delivery of construction equipment and materials, and the off-site hauling of excess soil and construction debris.

### **Construction Worker Trips**

As described in the Final EIR, it is estimated that an average of approximately 13 construction workers would be on-site each day throughout the construction period, generating about 32 daily one-way trips (13 a.m. commute trips to the site, 13 p.m. commute trips from the site, and 6 midday one-way trips). There would be a daily maximum of up to 27 construction workers on-site during the anticipated 2-month peak construction period, which would account for an estimated 68 daily one-way trips (27 a.m. commute trips, 27 p.m. commute trips, and 14 midday one-way trips).

### **Construction Truck Traffic**

Construction activity would vary in intensity over the 19-month period, and exporting of excess soil created during cave excavation and site grading would be the largest generator of truck traffic during construction. In addition, there would be lower levels of truck trips associated with deliveries of materials to the Project site throughout the construction period (e.g., shipments of concrete, lumber, and other building materials for on-site structures, utilities, road improvements, and landscaping). As described in the Final EIR, a total of about 2,250 truck round trips would be spread over the 19 months, with the peak daily hauling occurring during the two initial construction phases (grading of Spring Mountain Summit Trail, and grading and excavation of the apron and tank pad areas), when as many as 24 truck round trips (48 one-way trips) per day could be expected over a period of approximately seven weeks. The proposed wine cave excavation phase would occur over a longer period of time, but the daily rate of excavation would be lower, resulting in an average of fewer than five truck round trips (ten one-way trips) per day during this phase.

According to the Project sponsor's engineer, Atterbury and Associates, in excess of 90 percent of the trucks needed for Project construction are expected to be 3-axle / 25 feet long, with the remaining mostly being 2-axle / less than 16 feet long, and no more than one percent being 4-axle / 30 feet long. Those sizes of trucks would be in compliance with the above-described advisory size limits of trucks using St. Helena Road. For purposes of the impact analysis, so as to not underestimate potential Project impacts, the following split of truck sizes are assumed:

- 3-axle / 25 feet long = 90% (44 one-way trips per day)
- 2-axle / 16 feet long = 9% (4 one-way trips per day)
- 4-axle / 30 feet long = 1% (2 one-way trips per day)

### **Project Operational Vehicle Trip Generation**

As described in the Final EIR, the proposed winery would generate new, year-round vehicle trips associated with winery operations (i.e., wine deliveries every two-to-three months, winery employees [three year-round, plus four during harvest], visitors [wine tasting by appointment only, and monthly special events], and small package deliveries and occasional maintenance work). In addition, during the harvest season, the Project would generate new vehicle trips associated with transport of grapes to the winery (about ten one-way truck trips), and would eliminate the approximately 100 existing one-way vehicle trips associated with transport of grapes from Cornell Farms to an off-site winery, as grapes would be hauled internally within the Cornell Farms property directly to the proposed winery.

### **Project Construction Impacts**

Project construction traffic would be temporary, intermittent, and dispersed throughout the day. As described in the Final EIR, the maximum Project construction truck trips (up to 48 one-way trips per day over a seven week period) translates to one truck approximately every ten minutes traveling to or from the Project site over each 8-hour work day. Comparatively fewer daily truck trips would be generated during subsequent construction phases, resulting in lower truck frequencies during those phases. The movement of large Project-related construction trucks travelling to and from the Project site would be expected to result in increased congestion and lower rates of speed for other vehicles, particularly on St. Helena Road. Because the effect would be temporary and intermittent, it is considered less than significant, and no mitigation is required. However, since Project construction traffic would have some adverse (though less-than-significant) effect on traffic flow on roadways serving the site, the County shall require as a condition of approval that off-site transport of materials and equipment to and from the site should be limited to the off-peak traffic periods of 9:00 a.m. to 4:00 p.m. This condition shall be incorporated into contract specifications to ensure implementation by the construction contractor(s). The one-hour shorter work day resulting from that condition of approval means that the frequency of truck trips would be slightly higher (one truck approximately every nine minutes over a 7-hour work day instead of every ten minutes over 8 hours), but because the effect would continue to be temporary and intermittent, it is considered less than significant, and no mitigation is required.

As stated in the Caltrans HDM (Chapter 610, Pavement Engineering Considerations), roadway pavement degrades over time for various reasons, including weather conditions and other environmental factors, but the primary factor affecting pavement conditions and its service life is the wear and tear from tire/pavement interaction associated with heavy vehicles. The effect is incremental and cumulative over the approximately 20-year life span of pavement. That is, wear and tear of a road pavement occurs over time, and it is the total accumulated traffic loading of heavy vehicles over 20 years that is measured. In order to determine expected traffic loads on a pavement, truck traffic volumes are estimated for the 20-year period. The number of trucks per day for each axle configuration (i.e., 2, 3, 4, or 5+ axles) are converted to Equivalent Single Axle Loads (ESALs) using ESAL constants (Table 613.3A of the HDM). The ESAL constants are used as multipliers of the average daily truck volumes for each truck size to determine the total cumulative ESALs and in turn the TI during the 20-year life of the pavement.

For the reasons stated above, analysis of roadway degradation effects (comparing TI values for existing conditions versus existing-plus-Project conditions) are generally considered for Projects that result in a long-term or permanent increase in heavy truck trips (e.g., quarry operations, landfills or transfer stations), and not for a short-term increase associated with construction truck traffic (i.e., for traffic increases that would occur for only a portion of the 20 years). Those short-term increases in truck traffic would contribute to the wear and tear of a road pavement, but to properly judge the level of that contribution (i.e., the significance of the effect), the total construction truck traffic during the construction period (e.g., the 19-month construction period for the Project) must be converted to the equivalent number of trucks that would travel on the road every day for 20 years. As shown in **Table 3-8**, the total Project-generated approximate 2,250 truck round trips (4,500 one-way truck trips), spread over the 19 months, is equivalent to about two one-way truck trips every day for 20 years.

**TABLE 3-8  
PROJECT CONSTRUCTION TRAFFIC ASSUMPTIONS USED FOR  
ESTIMATING PROJECT TRAFFIC INDEX**

Total Estimated Project Truck Round Trips (Source: Chapter V, Errata, of the Final EIR)	2,250
Total Estimated One-Way Project Truck Trips (2,250 x 2)	4,500
Total Project Construction Period (Months)	19
Total Project Construction Period (Days, Monday to Friday only)	410
Peak Estimated Daily Project Truck Round Trips (Source: Chapter V, Errata, of the Final EIR)	24
Peak Estimated Daily One-Way Project Truck Trips (24 x 2)	48
Peak Project Construction Period (Weeks)	7
Peak Project Construction Period (Days, Monday to Friday only)	35
<u>Calculations</u> (Convert Project Truck Trips to Equivalent Daily Trips over 20 years):	
Days in 20 years (20 years x 52 weeks x 7 days)	7,280
Daily Project Truck Round Trips (trips per day for 20 years); 2,250 / 7,280	0.3 (Round up to 1)
<b>Daily One-Way Project Truck Trips (trips per day for 20 years)</b>	<b>2</b>

The TI calculations for St. Helena Road under Existing conditions, and Existing + Project conditions (using the assumptions discussed above) are presented in **Table 3-9**, **Table 3-10** and **Table 3-11**. The County considers a project to have a significant impact to road wear if it would increase heavy truck traffic volumes that would increase the TI by more than 1.5 on roadways built to accommodate heavy truck traffic, and by more than 0.5 on other roadways. As shown in Tables 3-9 through 3-11, the Project construction traffic would not increase the TI on St. Helena Road by more than 0.1, and consequently, the impact would be less than significant.

**TABLE 3-9  
TRAFFIC INDEX FOR ST. HELENA ROAD AT SPRING MOUNTAIN SUMMIT TRAIL**

Lane Distribution Factors for Multilane Roads				
Number of Lanes in 1 Direction	Factors to be Applied to Expanded Average Daily Truck Trips			
	Lane 1	Lane 2	Lane 3	Lane 4
One	1.00	NA	NA	NA
Two	1.00	1.00	NA	NA
Three	0.20	0.80	0.80	NA
Four	0.20	0.20	0.80	0.80

*Notes: (a) Lane 1 is next to the center line or median. (b) For more than four lanes in one direction, use a factor of 0.8 for the outer two lanes and any collector lanes, and a factor of 0.2 for all other lanes.*

Equivalent Single Axle Loads (ESALs)		
Vehicle Type	10-Year	20-Year
2-axle trucks	690	1,380
3-axle trucks	1,840	3,680
4-axle trucks	2,940	5,880
5/more axles	6,890	13,780

The ESAL Constants are used as multipliers of the expanded AADTT to determine the total design period ESALs, and in turn the Traffic Index.

**Determination of Traffic Index for a 2- or 4-Lane Roadway**

**CONDITION**

**Existing Conditions**

Axle Type	ESAL 20-Year Constants	Expanded Average Daily Trucks	Total 20-Year ESAL	Truck Volume =
Two-Axle	1,380	48	66,240	
Three-Axle	3,680	3	11,040	
Four-Axle	5,880	3	17,640	
Five- or More	13,780	0	0	
<b>Totals</b>			<b>94,920</b>	
Traffic Index (calculated)			<b>6.8</b>	
Traffic Index [Rounded to nearest 0.5 (per Caltrans procedures)]			<b>7.0</b>	

**CONDITION**

**Project Conditions (total spread over 20-year life)**

Axle Type	ESAL 20-Year Constants	Expanded Average Daily Trucks	Total 20-Year ESAL	Truck Volume =
Two-Axle	1,380	48	66,240	
Three-Axle	3,680	5	18,400	
Four-Axle	5,880	3	17,640	
Five- or More	13,780	0	0	
<b>Totals</b>			<b>102,280</b>	
Traffic Index (calculated)			<b>6.9</b>	
Traffic Index [Rounded to nearest 0.5 (per Caltrans procedures)]			<b>7.0</b>	

Total Trucks = 2,250 round trips  
Spread over 20-year period

**TABLE 3-10  
TRAFFIC INDEX FOR ST. HELENA ROAD AT CALISTOGA ROAD**

Lane Distribution Factors for Multilane Roads				
Number of Lanes in 1 Direction	Factors to be Applied to Expanded Average Daily Truck Trips			
	Lane 1	Lane 2	Lane 3	Lane 4
One	1.00	NA	NA	NA
Two	1.00	1.00	NA	NA
Three	0.20	0.80	0.80	NA
Four	0.20	0.20	0.80	0.80

*Notes: (a) Lane 1 is next to the center line or median. (b) For more than four lanes in one direction, use a factor of 0.8 for the outer two lanes and any collector lanes, and a factor of 0.2 for all other lanes.*

Equivalent Single Axle Loads (ESALs)		
Vehicle Type	10-Year	20-Year
2-axle trucks	690	1,380
3-axle trucks	1,840	3,680
4-axle trucks	2,940	5,880
5/more axles	6,890	13,780

The ESAL Constants are used as multipliers of the expanded AADTT to determine the total design period ESALs, and in turn the Traffic Index.

**Determination of Traffic Index for a 2- or 4-Lane Roadway**

**CONDITION** Existing Conditions

Axle Type	ESAL 20-Year Constants	Expanded Average Daily Trucks	Total 20-Year ESAL
Two-Axle	1,380	89	122,820
Three-Axle	3,680	5	18,400
Four-Axle	5,880	7	41,160
Five- or More	13,780	0	0
<b>Totals</b>			<b>182,380</b>
Traffic Index (calculated)			<b>7.4</b>
Traffic Index [Rounded to nearest 0.5 (per Caltrans procedures)]			<b>7.5</b>

Truck Volume =

**CONDITION** Project Conditions (total spread over 20-year life)

Axle Type	ESAL 20-Year Constants	Expanded Average Daily Trucks	Total 20-Year ESAL
Two-Axle	1,380	89	122,820
Three-Axle	3,680	7	25,760
Four-Axle	5,880	7	41,160
Five- or More	13,780	0	0
<b>Totals</b>			<b>189,740</b>
Traffic Index (calculated)			<b>7.4</b>
Traffic Index [Rounded to nearest 0.5 (per Caltrans procedures)]			<b>7.5</b>

Truck Volume =

Total Trucks = 2,250 round trips  
Spread over 20-year period

0
2
0
0



**TABLE 3-11  
TRAFFIC INDEX FOR ST. HELENA ROAD AT SPRING MOUNTAIN ROAD**

Lane Distribution Factors for Multilane Roads				
Number of Lanes in 1 Direction	Factors to be Applied to Expanded Average Daily Truck Trips			
	Lane 1	Lane 2	Lane 3	Lane 4
One	1.00	NA	NA	NA
Two	1.00	1.00	NA	NA
Three	0.20	0.80	0.80	NA
Four	0.20	0.20	0.80	0.80

*Notes: (a) Lane 1 is next to the center line or median. (b) For more than four lanes in one direction, use a factor of 0.8 for the outer two lanes and any collector lanes, and a factor of 0.2 for all other lanes.*

Equivalent Single Axle Loads (ESALs)		
Vehicle Type	10-Year	20-Year
2-axle trucks	690	1,380
3-axle trucks	1,840	3,680
4-axle trucks	2,940	5,880
5/more axles	6,890	13,780

The ESAL Constants are used as multipliers of the expanded AADTT to determine the total design period ESALs, and in turn the Traffic Index.

**Determination of Traffic Index for a 2- or 4-Lane Roadway**

**CONDITION** Existing Conditions

Axle Type	ESAL 20-Year Constants	Expanded Average Daily Trucks	Total 20-Year ESAL
Two-Axle	1,380	52	71,760
Three-Axle	3,680	2	7,360
Four-Axle	5,880	5	29,400
Five- or More	13,780	0	0
<b>Totals</b>			<b>108,520</b>
		Traffic Index (calculated)	<b>6.9</b>
		Traffic Index [Rounded to nearest 0.5 (per Caltrans procedures)]	<b>7.0</b>

Truck Volume =

**CONDITION** Project Conditions (total spread over 20-year life)

Axle Type	ESAL 20-Year Constants	Expanded Average Daily Trucks	Total 20-Year ESAL
Two-Axle	1,380	52	71,760
Three-Axle	3,680	2	7,360
Four-Axle	5,880	5	29,400
Five- or More	13,780	0	0
<b>Totals</b>			<b>108,520</b>
		Traffic Index (calculated)	<b>6.9</b>
		Traffic Index [Rounded to nearest 0.5 (per Caltrans procedures)]	<b>7.0</b>

Truck Volume =

Total Trucks = 2,250 round trips  
Spread over 20-year period

0  
0  
0  
0

(rarely to Napa Co.)

TI comparisons are a measure of relative road impact contributions from a project, but they do not take into account existing road conditions. As described above, the existing pavement condition is fair to poor. Under existing conditions, there is an existing potential of potholes occurring, which is more likely when heavy vehicles travel over damaged pavement in wet weather. This likelihood is due to cumulative roadway wear impacts, and based on the TI analysis, the project's contribution to those impacts is not cumulatively considerable. Pothole repairs are currently addressed through standard road maintenance procedures by DTPW. There is no risk of roadway failure from ordinary legal loads. For any load that would raise such an issue, a transportation permit would be required from the Sonoma County Permit and Resource Management Department.

The collision history reviewed for St. Helena Road does not indicate pavement condition as a causal effect in the reported accidents. Road conditions are normally taken into account by drivers. As described above, traffic volumes indicate that St. Helena Road primarily serves local traffic. Local drivers are familiar with the road conditions. In unusual circumstances, potholes can lead to vehicle damage. And in more unusual conditions they can also give rise to safety concerns, especially on high speed, high volume traffic routes. The County's DTPW gives priority to remedying any such safety conditions. Emergency calls about unsafe conditions are received from County Sheriff and/or Red COM dispatch, and when appropriate, road repair issues are addressed on an emergency basis. More routine calls about damaged roads are typically addressed through phone requests, e-mails into the Public Works web page, and the County's SoCo Report It app platform. The project's impact to traffic safety based on road condition would be less than significant.

As described above, St. Helena Road is narrow and winding, and the road has no shoulders. Consequently, the movement of Project construction trucks travelling St. Helena Road could result in the potential for conflicts with other traffic, and there would be a potential for traffic safety effects. While the collision history of this road indicates an average accident rate that is higher than the County-wide rate, the lengths of the Project construction trucks would be smaller than the advisory size limits of trucks using St. Helena Road, and the construction period, and particularly the peak construction period, would be limited in duration. For those reasons, the Project would not have a substantial effect on the accident rate, and the Project impact on traffic safety would be less than significant. The above-stated County requirement (as a condition of approval, and to be incorporated into contract specifications to ensure implementation by the construction contractors) that off-site transport of materials and equipment to and from the site should be limited to off-peak traffic periods would ensure less-than-significant traffic safety impacts.

Furthermore, on the basis of the information provided above, there are no substantial changes proposed in the Project, or substantial changes with respect to the circumstances under which the Project is undertaken, that would require major revisions to the Final EIR due to the involvement of new or substantially more severe Project construction impacts on traffic and road degradation. In addition, there is no new information that shows the project would have any new or substantially more severe Project construction impacts on traffic and road degradation, or that new mitigation measures or alternatives would be required.

### ***Project Operational Impacts***

Given the existing traffic volumes on St. Helena Road, and the estimated Project operational trip generation (relatively low number of daily employees, visitors and deliveries), Project operational trips would not contribute substantially to daily traffic volumes or have an adverse effect on traffic flow on St. Helena Road. Furthermore, during harvest season, St. Helena Road would experience a net decrease in truck traffic generated at Cornell Farms compared to existing conditions, due to a net decrease in off-site wine grape shipments. In addition, many of the Project vehicle trips would occur outside of peak traffic hours. Consequently, the operational effects of the Project on traffic flow conditions on area roadways would be less than significant. The net decrease in Project-generated truck traffic (associated with grape shipments) would reduce the effect of ongoing Cornell Farms operations on roadway pavement conditions; a less-than-significant impact.

Regarding traffic safety, the above-described net decrease in Project-generated truck traffic, and the relatively low number of daily employees, visitors and deliveries generated by Project operations, would also reduce the potential for conflicts between Project vehicles and other vehicles on St. Helena Road. In addition, while the collision history of this road indicates an average accident rate that is higher than the County-wide rate, the lengths of the Project trucks used for grape shipments (3-axle, typically 30 feet long) would be smaller than the advisory size limits of trucks using St. Helena Road. For those reasons, the Project effect on traffic safety would be less than significant.

Furthermore, on the basis of the information provided above, there are no substantial changes proposed in the Project, or substantial changes with respect to the circumstances under which the Project is undertaken, that would require major revisions to the Final EIR due to the involvement of new or substantially more severe Project operational impacts on traffic. In addition, there is no new information that shows the project would have any new or substantially more severe Project operational impacts on traffic, or that new mitigation measures or alternatives would be required.

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## **References**

*(The references cited below are available at the Sonoma County Permit and Resource Management Department, 2550 Ventura Avenue, Santa Rosa, California, unless otherwise specified.)*

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## **SECTION 4**

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### **Conclusion**

This Addendum provides specific additional environmental analysis for the issues of inducement of vineyard growth, traffic related impacts and road degradation, in compliance with the Superior Court's Statement of Decision (*New-Old Ways Wholistically Emerging v. Sonoma County Board of Supervisors*, No. SCV-252985), and in conformance with CEQA. This Addendum serves to supplement and update certain aspects of the original environmental analysis from the Final EIR with new information and analysis where appropriate. Otherwise, all construction characteristics (with the exception of construction start and end dates), physical site development, and operational aspects of the Project are the same as those originally proposed and described in the Final EIR. This Addendum provides updated environmental setting information where applicable (e.g., updated land use controls) along with providing minor additional detail on certain Project characteristics (e.g., Project construction truck size).

None of the additional information and analysis requires any change to the conclusions in the Final EIR. All mitigation measures included in the Final EIR would continue to be applicable, and ensure all potential impacts would be mitigated to a less than significant level.

# **APPENDIX A**

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## Excerpts from Henry Cornell Winery Final EIR

- A.1 Draft EIR Chapter III, Project Description
- A.2 Draft EIR Section IV.A, Summary of Initial Study (Transportation and Traffic Portion only)
- A.3 Draft EIR Chapter VI, Impact Overview (including Growth Inducing Impacts)
- A.4 Response to Comments Document Chapter IV (Transportation and Traffic Related Comments and Responses only)
- A.5 Response to Comments Document, Chapter V, Errata (Changes to Transportation and Traffic Portion of Draft EIR only)

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# **APPENDIX A.1**

## Draft EIR Chapter III, Project Description

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## **APPENDIX A.2**

### Draft EIR Section IV.A, Summary of Initial Study (Transportation and Traffic Portion only)

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## **APPENDIX A.3**

### Draft EIR Chapter VI, Impact Overview (including Growth Inducing Impacts)

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## **APPENDIX A.4**

### Response to Comments Document Chapter IV (Transportation and Traffic Related Comments and Responses only)

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## **APPENDIX A.5**

Response to Comments Document,  
Chapter V, Errata (Changes to Transportation  
and Traffic Portion of Draft EIR only)

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# CHAPTER III

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## Project Description

### A. Project Overview

The Project applicant, Guy Davis, representing Cornell Farms, LLC (Cornell Farms), proposes to develop a winery in eastern Sonoma County. The Project applicant has requested the necessary entitlements from the County of Sonoma to enable development of the winery. Approval of this request would grant a use permit for development and operation of the winery, and any approval conditions that are imposed. The proposed winery would have a maximum annual production capacity of 10,000 cases. The County of Sonoma is serving as Lead Agency and is responsible for administering the environmental review for the proposed Project.

### B. Project Objectives

Section 15124(b) of the CEQA Guidelines requires that the Project Description of an EIR contain a statement of objectives for the proposed Project. The Project applicant's objectives include the following:

1. Construct and operate a winery capable of producing 10,000 cases of a variety of high quality wines annually, using primarily the wine grapes grown on the existing Cornell Farms vineyards that immediately abut the proposed winery property;
2. Develop caves to reduce the above-ground winery footprint and provide optimum cellar conditions for wine on-site (e.g., temperature and humidity);
3. Operate custom on-site wine production facilities (e.g., small fermentation tanks) to provide maximum flexibility and control in winemaking operations, to provide for optimum wine quality, and reduce transportation time and costs, and associated transportation impacts;
4. Provide for on-site wine tasting (by appointment only and on a limited basis) in proximity to the existing Cornell Farms vineyards to enhance the wine tasting experience for visitors;
5. Reduce water consumption through use of extensive water conservation measures, including rain water harvesting and re-use, wet season groundwater pumping and storage for use during the dry season, and process wastewater treatment and re-use. The intent of these measures is to reduce net water use to below existing use levels; and
6. Develop an environmentally-sensitive project through proper sizing, siting, reduced energy use, and incorporation of stormwater and landscaping improvements, water consumption-reducing technologies in wine production, water conservation measures described above, and other sustainable elements.

## C. Project Site and Vicinity Description

### Project Location

The Project site is located at 100, 245, 420, 500 and 560 Wappo Road in eastern Sonoma County [Assessor's Parcel Numbers (APNs) 028-250-007, 028-260-041, 028-260-047, 028-260-023 and 028-260-025, respectively] approximately 1½ miles west of the Sonoma-Napa County line (see **Figure III-1**). The property is owned by Cornell Farms. Including the five Project site parcels, Cornell Farms owns a total of seven contiguous legal parcels in the vicinity amounting to 187.08 acres. **Figure III-2** presents Assessor's Parcel location for the Project site and vicinity.<sup>1</sup>

Regionally, the Project area is located along the southern flank of Diamond Mountain, part of the Mayacamas Mountain range that separates the Napa and Sonoma valleys. The region's topography is characterized by alternating northwest trending mountain ranges and valleys. The Project area is also located within the upper reaches of the Mark West watershed. The Upper Mark West watershed (approximately 40 square miles total) is designated as a Priority Conservation Area by the Association of Bay Area Governments (ABAG, 2008). Mark West Creek flows south of the Project site from east to west, ultimately discharging approximately 16 miles downstream into the Russian River in the northwest Santa Rosa area.

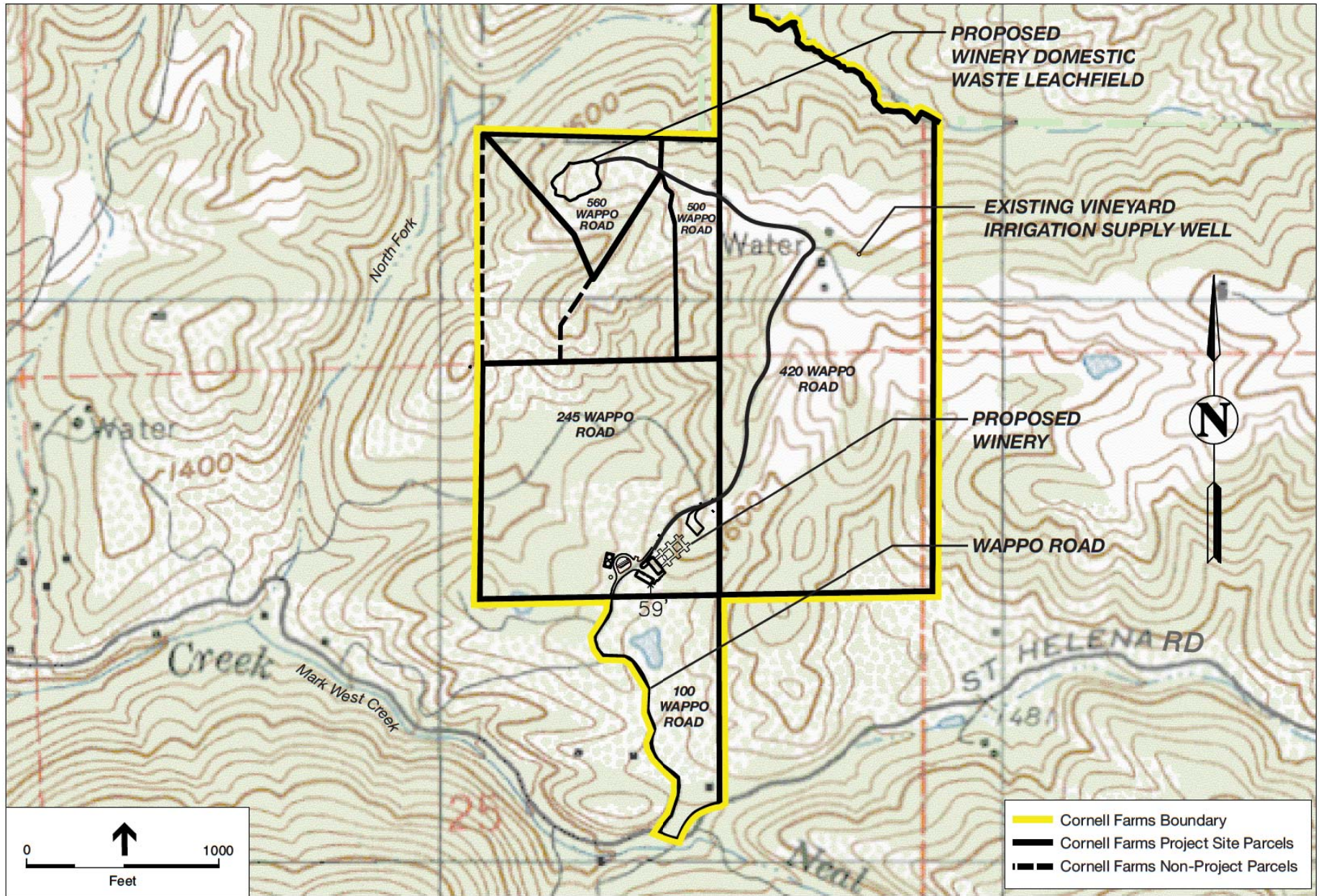
### Site Description

**Figure III-3** presents an aerial photograph of the Cornell Farms property. The Cornell Farms property contains a variety of improvements, including the Cornell Farms vineyards (approximately 20 acres); several residences and small out-structures, supporting utilities including water wells and water storage tanks, domestic water and vineyard irrigation lines, leachfield/septic systems, overhead electrical lines; access roads; and fencing and drainage improvements. Wappo Road, which is partially paved and partially gravel surface, is a private road and provides primary vehicular access to and within the Cornell Farms property. Large areas of the Cornell Farms property are also undeveloped, containing a variety of forest, woodland, shrubland and grasslands, small drainages, and ponds.

The Cornell Farms property is topographically varied, with elevations ranging from a low of approximately 1,360 feet above sea level (asl) within a deep ravine on the west side of the property, to a high of approximately 1,780 feet asl along a ridge in the northern portion of the property.<sup>2</sup> The following provides additional detail on each of the Project site parcels.

<sup>1</sup> This EIR describes the environmental setting as it existed at the time the Notice of Preparation (NOP) was published. Since the NOP was published, Cornell Farms has acquired several additional parcels in the site vicinity, including APNs 028-250-006 (115 Wappo Road, 24 acres), 028-250-012 (8450 St. Helena Road, 2 acres), 028-250-014 (8545 St. Helena Road, 2 acres), 028-250-017 (8516 St. Helena Road, 0.38 acres), and 028-250-018 (8565 St. Helena Road, 0.03 acres) – see Figure III-2 for location. No portions of the Project are proposed on these parcels.

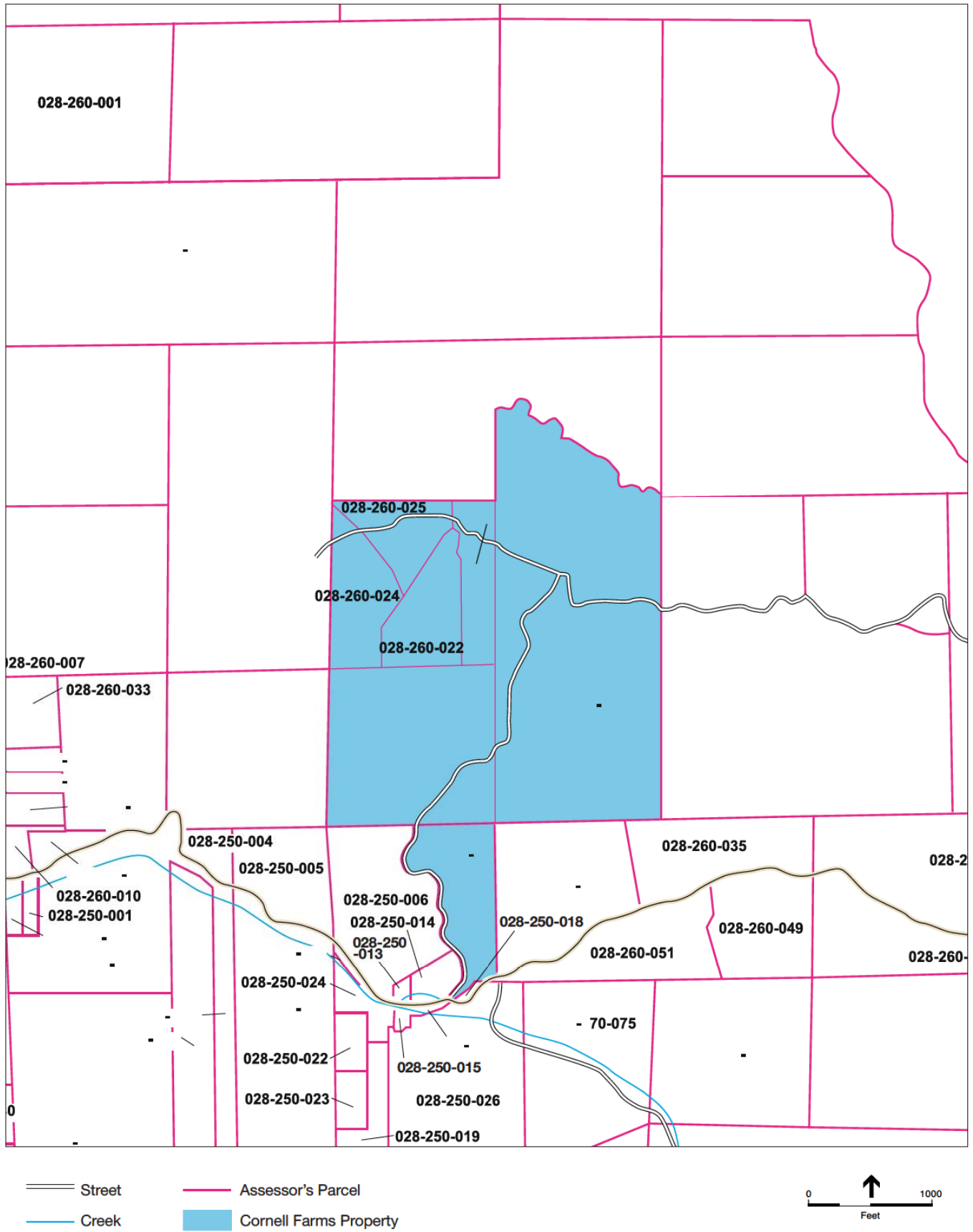
<sup>2</sup> It should be noted that the topographic contour values presented in Figure III-1 in this EIR (based on U.S. Geological Survey) do not agree with the topographic contour values presented on the topographic maps that were developed by the applicant's surveyor (i.e., the base maps used in Figures III-5, -III-9, -III-10, and III-12 in the Project Description; Figure IV.B-1 in Section IV.B, and those maps in Appendix PD in this EIR). This discrepancy stems from the use of a different vertical datum by the applicant's surveyor in their original survey of the site. Accordingly, all figures presented in this EIR that are based on the applicant's topographic survey note this discrepancy, and all topographic elevations referenced in this text discussion are based on the true elevation asl.



SOURCE: Atterbury & Associates, 2011/ USGS 1980

Henry Cornell Winery . 211996

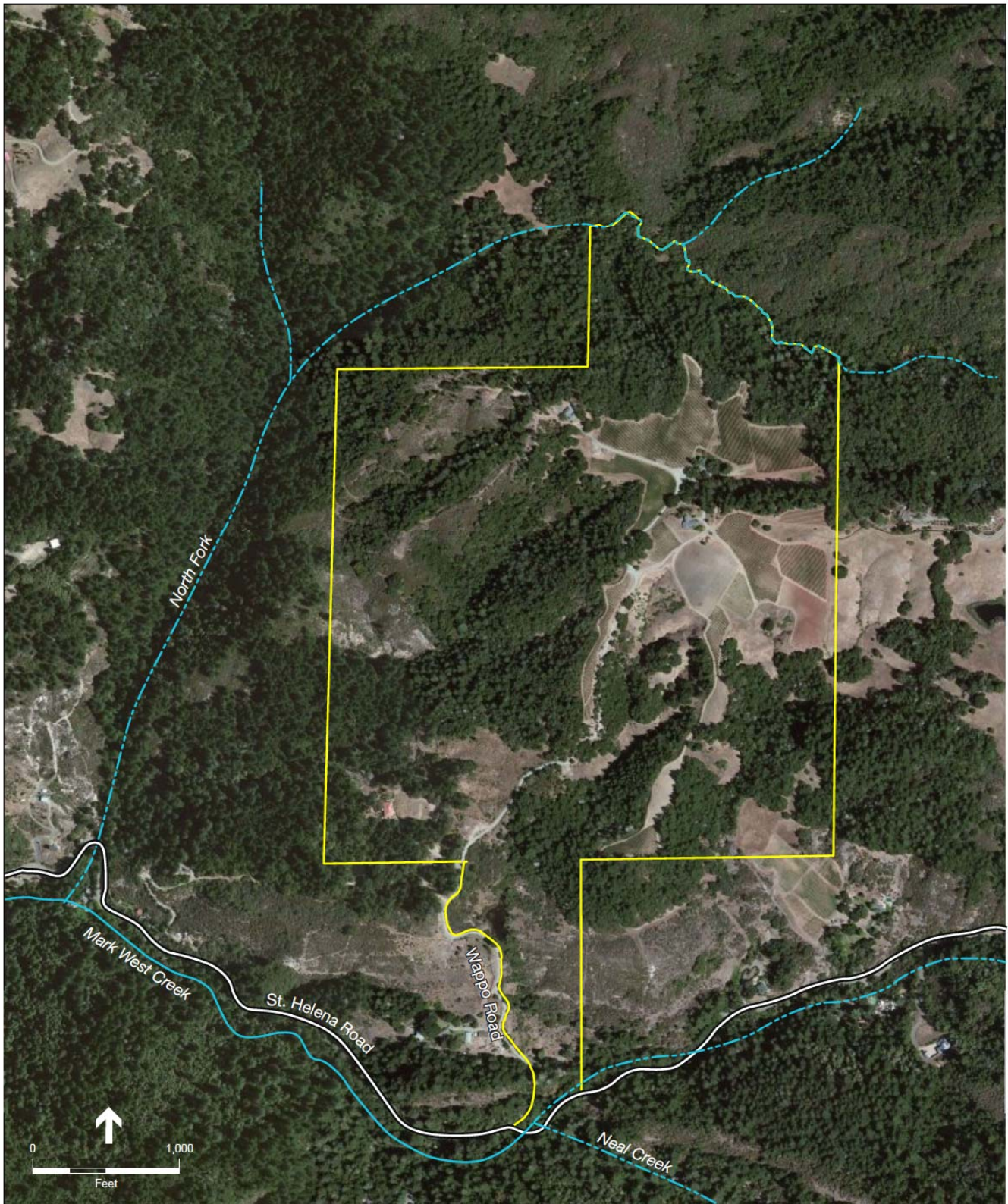
**Figure III-1**  
Project Location Map



SOURCE: Todd Engineers, ESA

Henry Cornell Winery . 211996

**Figure III-2**  
Assessor's Parcel Map of Project Site and Vicinity



- Cornell Farms Boundary
- Creek (approximated from USGS topographic map)**
- Perennial Creek
- - - Intermittent Creek

SOURCE: Sonoma County, 2012; ESRI, 2012, ESA 2012

Henry Cornell Winery . 211996

**Figure III-3**

Aerial Photograph of Project Site and Vicinity

**245 Wappo Road (APN 028-260-041).** This 40-acre parcel is characterized by western facing spur ridges and intervening ravines off a southerly trending ridge and knoll. The majority of the proposed winery development would be located in the southeast portion of this parcel on the undeveloped knoll east of and adjacent to Wappo Road. An ephemeral creek (named Drainage A in this EIR) is located over 70 feet southeast of the winery site, draining southward to a pond on the adjacent 100 Wappo Road property, and then to Mark West Creek. A series of drainages on the western portion of the 245 Wappo Road property drain to a tributary (named Drainage B in this EIR) that extends west and off-site to the north fork of Mark West Creek. Existing site improvements elsewhere on this parcel include a residence, small vineyard, leach field, and water wells and stormwater control improvements.

**560 Wappo Road (APN 028-260-025).** This 7.2-acre parcel is among the northernmost parcels of the Cornell Farms holdings. The parcel is largely undeveloped except for the access road. The winery's proposed leachfield would be located within a stand of Douglas fir and oak trees on this property.

**420 and 500 Wappo Road (APNs 028-260-047 and 028-260-023).** A proposed domestic wastewater pipeline would be installed beneath Wappo Road on these parcels between the proposed winery and leachfield. The 420 Wappo Road property (94.5 acres) contains the majority of the Cornell Farms vineyards, as well as a home, water wells and septic system. The north fork of Mark West Creek forms the northern boundary of this parcel. The 500 Wappo Road property (6.5 acres) is undeveloped with the exception of a home, the access road, several above-ground water storage tanks, a shed, and a water well and septic system. The Bothe-Napa Valley State Park also forms the northern boundary of the 420 and 500 Wappo Road parcels.

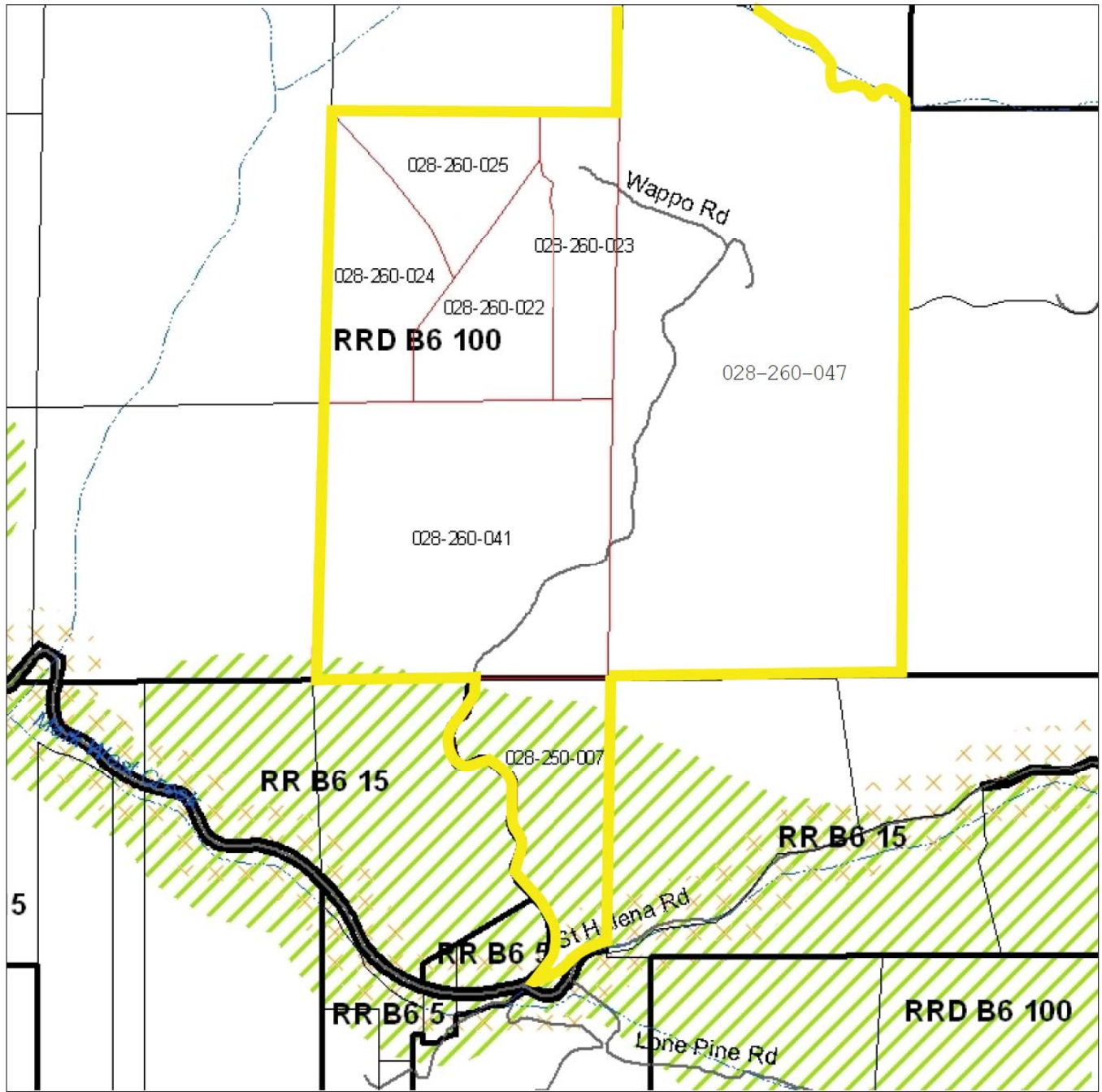
**100 Wappo Road (APN 028-250-007).** This 15-acre parcel is the southernmost parcel of the Cornell Farms holdings. A number of proposed grading and drainage improvements to Wappo Road would occur on this property as part of the Project. This property contains a spring-fed pond, residence, water well and septic system.

## Existing Land Use Controls

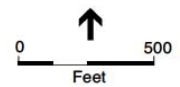
The *Sonoma County General Plan 2020* land use designation for the 245, 500, 520 and 560 Wappo Road properties is Resource and Rural Development, 100-acre density. The General Plan land use designation for the 100 Wappo Road property is Rural Residential, 15-acre density (Sonoma County, 2008a).

The County zoning for the Project site and vicinity is illustrated in **Figure III-4**. Zoning for the 245, 500, 520 and 560 Wappo Road properties is RRD (Resource and Rural Development), B6-100-acre density, BR (Biotic Resources); and zoning for the 100 Wappo Road property is RR (Rural Residential), B6-15 acre density, BR, Scenic Resources (SR) (Sonoma County, 2012).





- ✕ ✕ Scenic Resource Combining District
- ▨ Biotic Resource Combining District
- ▬ Cornell Farms Boundary
- Cornell Farms Parcels



SOURCE: Sonoma County PRMD, ESA, 2012

Henry Cornell Winery . 211996

**Figure III-4**  
Zoning of Project Site and Vicinity

The Project site is also located within the boundary of the *Franz Valley Area Plan*, which is consistent with the County General Plan.<sup>3</sup> The *Franz Valley Area Plan* land use designation for 245, 500, 520 and 560 Wappo Road is Resource Conservation, and for 100 Wappo Road is Rural Residential, 15-acre density. Both the Resource Conservation designation of the Franz Valley Area Plan and the Resource and Rural Development designation of the General Plan consider agriculture and related uses as suitable land uses (Sonoma County, 2008b).

## Nearby Off-Site Land Uses

Land uses in the Project vicinity are rural, and large areas surrounding the Project site contain forest, woodland and/or scrubland. The main stem of Mark West Creek is located just south of Cornell Farms, and meanders roughly parallel to St. Helena Road in the Project vicinity. The north fork of Mark West Creek flows north and west of the Cornell Farms property. The westernmost portion of the 1,900-acre Bothe-Napa Valley State Park abuts the northern boundary of the Cornell Farms property. Much of the area south of Wappo Road is forested and divided into large-acre residential lots.

A number of rural residential land uses are concentrated along the St. Helena Road corridor in the Project vicinity. The nearest neighboring residence is located at 115 Wappo Road, just west of the Cornell Farms' 100 Wappo Road property, although approximately 1,100 feet from the site of proposed winery development. Another winery and vineyard development, Pride Mountain Vineyards, is located approximately one-half mile east of the Project site.

## D. Project History

There have been several previous proposals to develop a winery on Cornell Farms' parcels, for which the County has conducted environmental review pursuant to CEQA. The first winery use permit application (UPE03-0092) was filed in October 2003 for a proposed winery with a maximum annual production of up to 20,000 cases on the 420 Wappo Road property. In December 2004, the County prepared a Mitigated Negative Declaration (MND) for this project, and on February 10, 2005, the Sonoma County Board of Zoning Adjustments (BZA) adopted the MND and approved the proposed winery for a maximum annual production of 10,000 cases on the 420 Wappo Road parcel. On February 22, 2005, an appeal of the BZA approval was filed.

In July 2005, Cornell Farms purchased the adjacent parcel at 245 Wappo Road. The applicant subsequently withdrew the original use permit application and submitted a new application (UPE07-0008) on February 7, 2007, proposing to relocate the site of the winery to the 245 Wappo Road parcel. In October 2008, a proposed MND was prepared for a proposed winery at the 245 Wappo Road parcel that included an 18,700 square foot (sf) winery building, 22-space

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<sup>3</sup> Originally adopted in 1979 as the *Franz Valley Specific Plan* and intended to provide an intermediate level of detail between the General Plan and site development plans within a 91,520-acre area in northeastern Sonoma County, it has since been revised to be made consistent with the current General Plan, and readopted as the *Franz Valley Area Plan*.

parking area and leach field west of Wappo Road, and an 8,700 sf cave and other supporting facilities on the knoll east of Wappo Road.

In response to the concerns raised regarding geology and hydrology, the applicant undertook further geologic investigation and revised the project, proposing to develop the leach field at the Cornell Farms 560 Wappo Road property instead, and install a pipeline beneath Wappo Road to convey the treated water from the proposed domestic wastewater treatment facility to the new leach field location. The applicant also purchased the 100 Wappo Road parcel, and proposed to offset winery water use by demolishing the existing residence on this property and relinquishing in perpetuity the right to install vineyards, or build any new structure at 100 Wappo Road (for which a building permit is required); riparian rights to withdraw water directly from Mark West Creek; and the right to use water from the on-site spring-fed pond or well (other than fire protection); all of which would be formalized in a Conservation Easement.

In October 2009, a Recirculated MND was prepared for this revised project. The County engaged additional geotechnical peer review of the applicant's geotechnical studies. Based on this additional review, in February 2010 the applicant agreed to relocation of the site of the proposed winery building. As a result, in May 2010, the applicant revised the project to relocate the proposed winery building to the knoll on the east side of Wappo Road. The revised winery development proposal included two winery buildings of a net reduced size compared to the previous version of the project (6,700 sf), a slightly larger proposed cave (10,200 sf), and reduced parking (8 spaces). The revised project included the previously proposed leach field at 560 Wappo Road and proposed water offsets at 100 Wappo Road. In addition, the project proposed to collect and store runoff water from project buildings in two on-site water storage tanks west of Wappo Road (with a total 140,000 gallon capacity), and proposed to not pump groundwater for the winery during the months of August through October.

On August 9, 2010, a MND was prepared for the project as further revised (included as Appendix B in this EIR). On September 23, 2010, the Sonoma County Board of Zoning Adjustments (BZA) adopted the MND and approved the winery project for a maximum annual production of 10,000 cases. On September 28, 2010, an appeal of the BZA approval was filed, citing a range of potential issues associated with geology, hydrology, biology and traffic. Prior to the appeal hearing, the applicant and the County agreed to have an EIR prepared for the Project to facilitate full public disclosure. The applicant has also conducted additional biological and geotechnical investigation of the Project site. The applicant now believes that the extensive water conservation features proposed as part of the Project would sufficiently address potential concerns about hydrologic impacts, and as a result, the applicant has removed from its proposed Project the previous proposal for a water conservation easement on the 100 Wappo Road property. The following section provides a full description of the Project as currently proposed.

## E. Project Characteristics

### Proposed Winery Operation and Features

The proposed winery site plan is illustrated in **Figure III-5**. The Project would include new building development; a wine cave; access and parking improvements; various Project-related infrastructure improvements for stormwater management, including rainwater harvesting and storage, wastewater treatment, conveyance and disposal; and landscaping improvements.

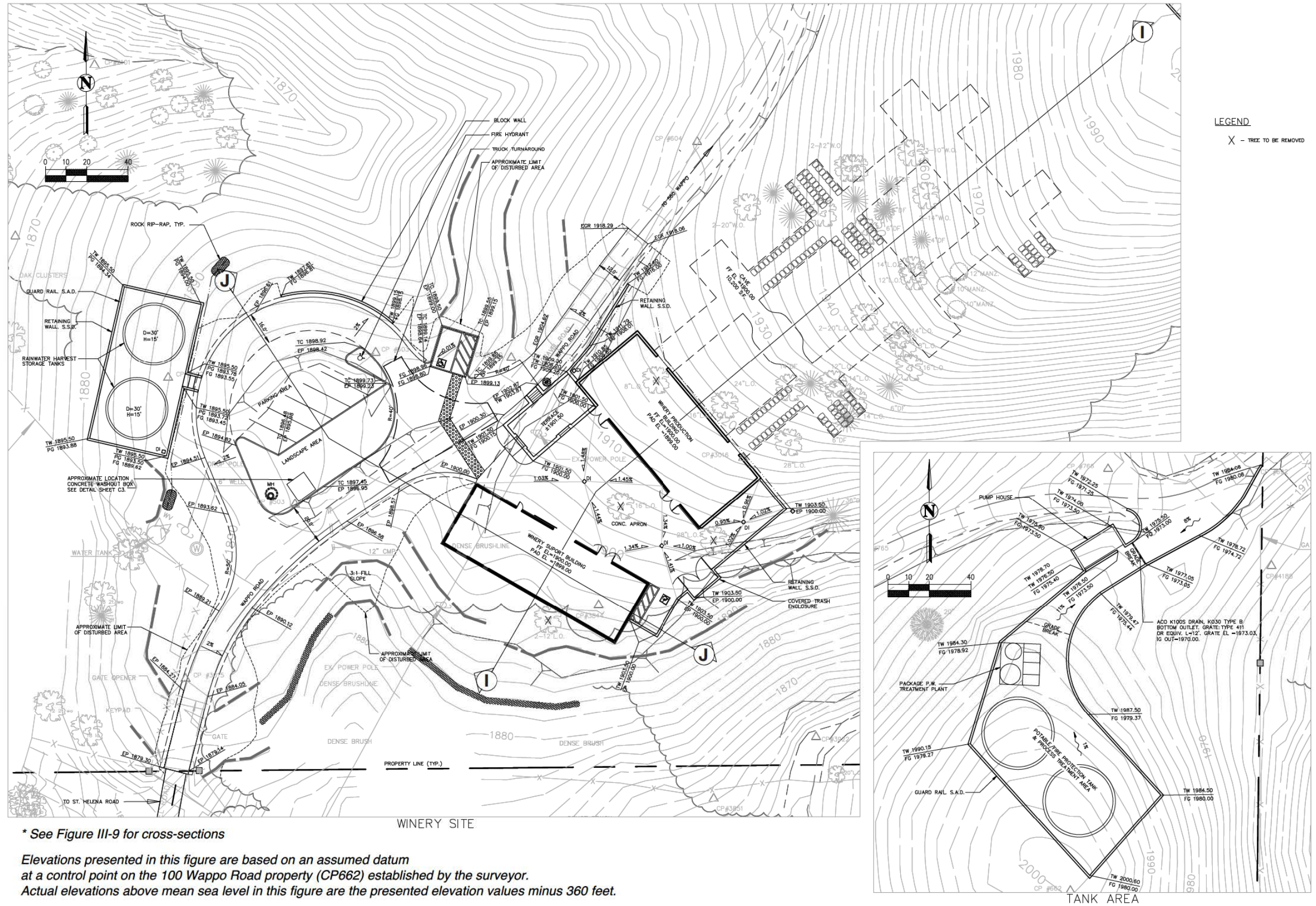
The proposed winery would have a maximum annual production capacity of 10,000 cases. At maximum production, it is estimated that approximately 150 tons of grapes would be processed annually at the winery to produce the wine. The Project sponsor proposes to primarily process grapes grown on the Cornell Farms vineyards, but would also purchase grapes from other vineyards to enhance the wine variety produced at Cornell Farms. The existing vineyards on the Cornell Farms property at 420 Wappo Road are capable of providing approximately 100 tons of grapes per year. Consequently, under the maximum production scenario, the existing vineyards on the Cornell Farms property would provide approximately two-thirds of the required grapes, and the balance (one-third, or 50 tons) could be imported annually to the winery from one or more off-site vineyard locations. However, there may be years in which no grapes would be imported, or in which less than this total are imported. The existing vineyard and its maintenance currently operate under a separate permit from the proposed winery, and are not part of the Project (see however, proposed winery water conservation and storage features that would reduce the existing groundwater use associated with these vineyards).

Because the proposed winery would use the grapes from the adjoining Cornell Farms vineyards, the Project would eliminate existing off-site hauling of wine grapes from these vineyards. However, under conditions where annual winery production would exceed the annual grape production capacity at Cornell Farms vineyards (i.e., when winery production exceeds approximately 100 tons per year), some grapes would be hauled to the winery site from one or more off-site vineyards.

Typical hours of operation of the winery, including the tasting room, would be weekdays, 8:00 a.m. to 5:00 p.m. However, during harvest season (typically between September 15 and November 1), the winery could operate up to seven days a week, 24 hours a day for wine production. All wine tasting at the winery would be by appointment only, and limited to a maximum of 15 guests at a time (and no more than 15 guests on any given day).

In addition, up to 10 special events would be allowed per year at the winery (e.g., for hosting dinners for sales and marketing representatives), with a maximum of ten guests per event. Special event days would not coincide with days when typical daytime wine tasting would occur. The special event days could occur on weekdays or weekends, and would end by 10:00 p.m.

The winery would require three full-time employees, with up to four additional employees during harvest season.



\* See Figure III-9 for cross-sections

Elevations presented in this figure are based on an assumed datum at a control point on the 100 Wappo Road property (CP662) established by the surveyor. Actual elevations above mean sea level in this figure are the presented elevation values minus 360 feet.

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## Winery Buildings and Wine Cave

**Figure III-6** through **Figure III-8** present plans and elevations of the proposed winery buildings. The winery would include two single-story buildings on the knoll just east of Wappo Road totaling 6,700 sf, including a winery production building and winery support building. The 3,500 sf winery production building would house crushing and fermentation facilities. The 3,200 sf winery support building would include the winemaker's office, laboratory, mechanical equipment, and space for bottling and case good storage. The primary winery production equipment would include a stemmer/crusher, sorting table, press, wine pump, glycol chiller, 12 closed top steel fermentors each with a three-ton capacity, and up to 36 one-ton oak rotary fermentors. A backup propane-powered generator would be located either adjacent to the winery production building, or alternately, at a location to the northeast at the proposed potable/fire protection water tank pad.

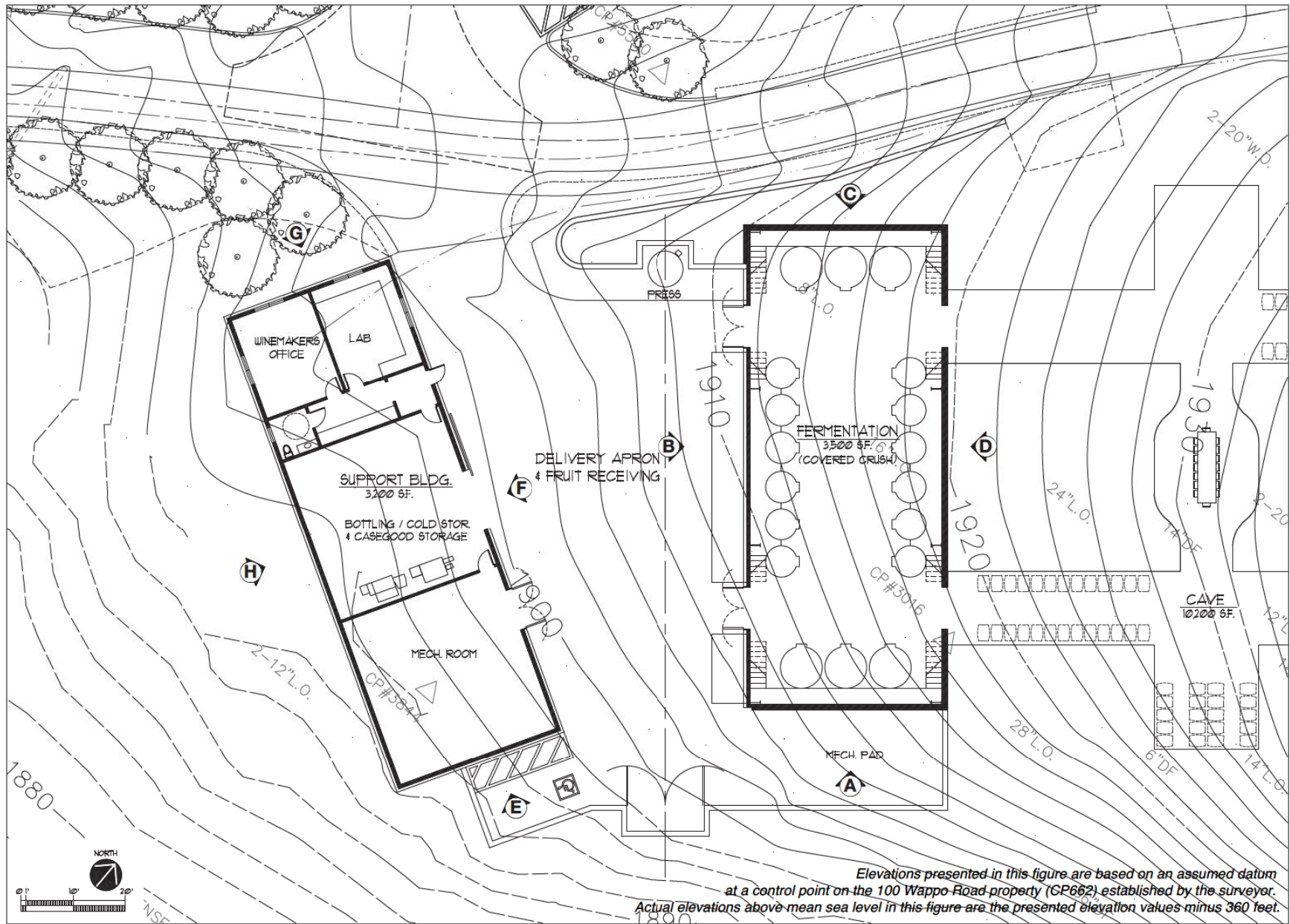
Each building would be of wood-frame construction with gable roofs. Proposed exterior materials would include a corrugated metal roof, earth tone stained wood siding (or simulated wood siding), and natural stone base. The winery production building would measure approximately 33 feet in height from finished floor to top of roof frame. The winery support building would measure approximately 23 feet in height from finished floor to apex of roof. Photovoltaic (solar) panels would be installed on the building roofs to reduce Project utility electricity demand.

The two buildings would be located on either side of a concrete apron that would be used for deliveries and shipping. One disabled parking space would be provided adjacent to the winery support building. The primary parking area would be located just west of Wappo Road (see Access and Parking, below, for further detail). A covered terrace would be located adjacent to the winery production building along Wappo Road, and would contain the press. A covered trash enclosure would be located at the rear (south side) of the winery buildings.

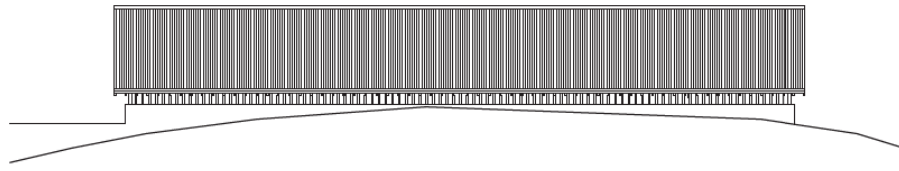
A 10,200 sf wine cave would be constructed within the knoll, with the proposed cave portals located adjacent to, and at the same elevation as (approximately 1,540 feet asl), the winery production building. The cave would be used for wine barrel storage, and would contain a wine tasting room. The cave would extend approximately 200 feet horizontally into the knoll from winery production building, would have a 10-foot high ceiling, and would contain multiple passages.

**Figure III-9** presents grading cross-sections of the winery site. As shown in **Figure III-6**, the proposed winery production building would be recessed into the hillside, necessitating a 20-foot high cut to be retained by the adjacent cave portal. As shown in **Figure III-5**, retaining walls are proposed on the southeast side of the winery buildings, along a portion of Wappo Road and parking area, and at the proposed tank sites. Excess excavated materials would be moved offsite to a permitted disposal site.

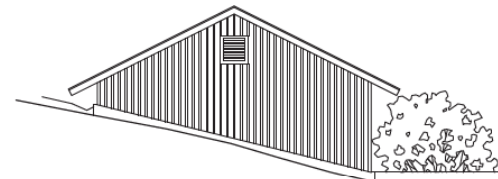
All new construction would use fire resistant building materials, and contain fire sprinkler systems and fire hydrants as required by existing regulations.



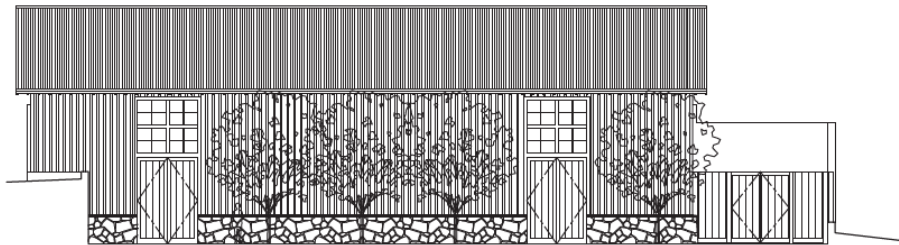




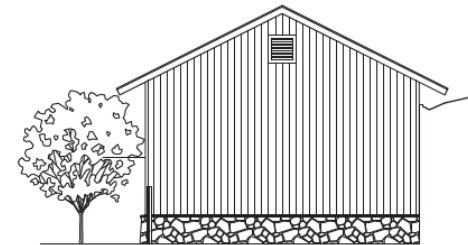
D ELEVATION



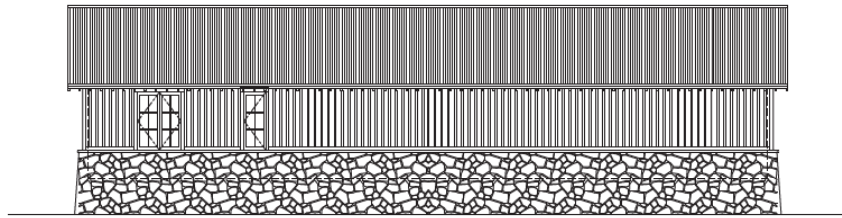
C ELEVATION



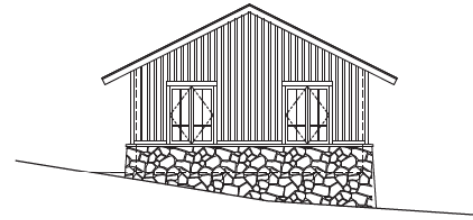
B ELEVATION



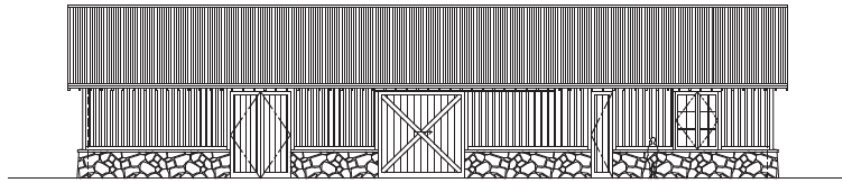
A ELEVATION



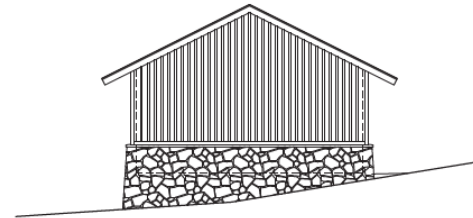
H ELEVATION



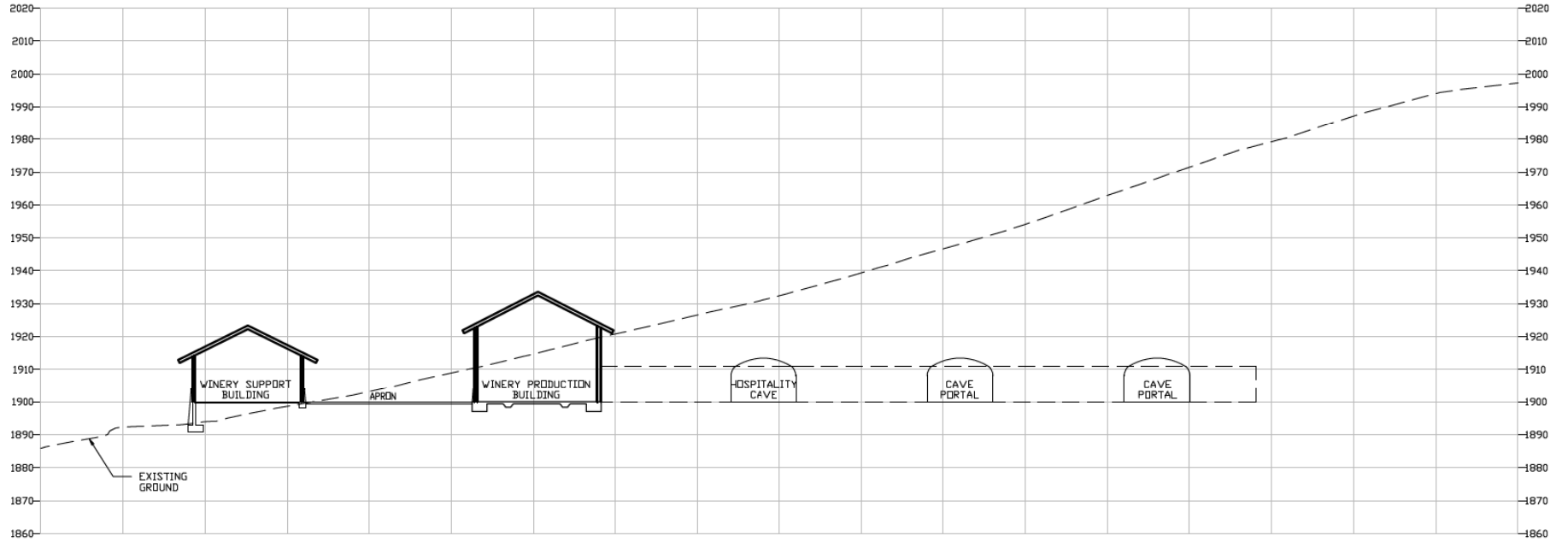
G ELEVATION



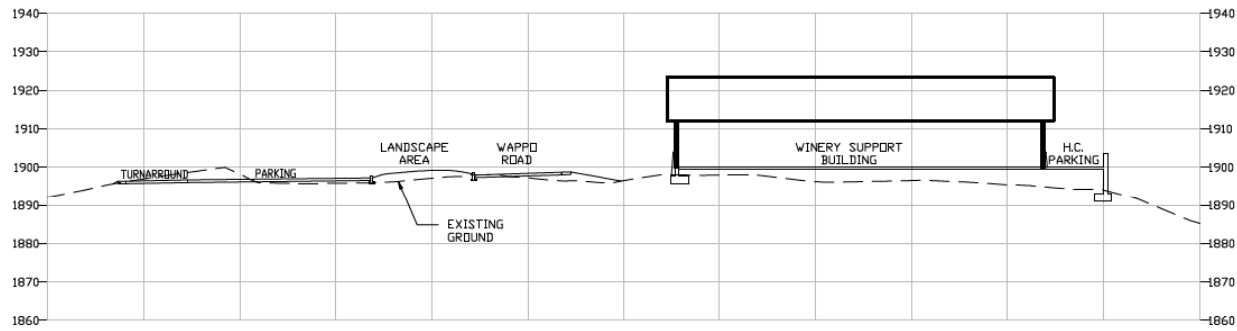
F ELEVATION



E ELEVATION



SECTION I-I



SECTION J-J

Elevations presented in this figure are based on an assumed datum at a control point on the 100 Wappo Road property (CP662) established by the surveyor. Actual elevations above mean sea level in this figure are the presented elevation values minus 360 feet.

## **Access and Parking**

Vehicular access to the winery would be provided via Wappo Road. Wappo Road would be improved from St. Helena Road to the proposed winery parking area to provide all-weather access and comply with County Fire Safe Standards. Appendix PD, Sheet C5, and C10 through C12 shows plan and profile details of proposed grading on Wappo Road. As shown in these figures, a total of approximately 600 linear feet of lower Wappo Road would be paved in three sections with asphalt concrete. 18-inch wide crushed rock shoulders would also be installed on sections of lower Wappo Road. See also discussion of drainage improvements proposed for Wappo Road, under Stormwater Collection and Control, below.

The primary parking area for the winery would be located just west of Wappo Road across from the winery buildings, and would consist of seven parking spaces surrounded by a driveway. In addition to the single parking space provided adjacent to the winery support building, a total of eight parking spaces are proposed. Permeable pavers would be installed on approximately 300 linear feet of Wappo Road in the vicinity of the winery, as well as the proposed parking area.

## **Water, Wastewater and Stormwater Improvements**

### ***Water Supply and Storage***

The winery proposes to use groundwater to supply water for the winery operations. In addition, rainwater harvested at the winery would be used to irrigate the winery landscape vegetation, and to provide supplemental water for irrigation of the existing Cornell Farms vineyards to reduce the existing vineyard groundwater demand.

Groundwater for winery operations would be drawn from an existing well on a ridge located northeast of the winery site (on the 420 Wappo Road property, as shown in Figure III-1). This well was installed on the property in 2004. This well is currently used to provide water for irrigating the Cornell Farms vineyards. An above-ground tank (102,000 gallon capacity) for storing potable water and fire protection water for the winery would be located on a pad near the top of knoll east of Wappo Road, approximately 300 feet northeast of the proposed winery buildings. This water tank would have a height of 16 feet and diameter of 33 feet, and would be constructed of bolted or corrugated galvanized steel. The winery would pump and store up to 102,000 gallons of water from the well during the rainy season and early dry season (i.e., November through July 31) and no pumping for the winery would occur during the dry months of August, September and October. Prior to use at the winery, the groundwater would be aerated with a dissolved oxygen meter to keep the water fresh, and filtered using conventional techniques (e.g., activated carbon/charcoal filters and UV for bacteria).

Rainwater runoff from the winery building roofs, apron between the winery buildings, and tank pads would be harvested during the rainy season. The winery building roof gutter system would be equipped with screens to prevent debris from entering the rainwater harvest system. Rainwater runoff from the apron between the buildings would be collected through drop inlets with Triton treatment filters designed to trap trash, sediment and debris and treat oil and grease. Rainwater runoff from the tank pads would also be collected through drop inlets or strip drains. The

rainwater would first be routed via pipes to a 17,040-gallon underground rain water harvest cistern installed beneath the landscape area adjacent to the proposed parking area. The cistern would be designed to temporarily store the rain water from the 85<sup>th</sup> percentile 24-hour storm events. A bypass pipe would be installed for storm events larger than the 85<sup>th</sup> percentile design storm. A pump installed within an outlet manhole would transport the captured rain water to the two proposed on-site above-ground water storage tanks (total 140,000 gallon capacity) located on the west side of the parking area. The two above-ground rainwater harvest tanks would have a height of 15 feet and diameter of 30 feet, would be constructed of bolted or corrugated galvanized steel, and faced with wood planks for visual screening.

The collected rain water would provide water to establish and maintain the drought-resistant winery landscaping. The stored rain water would also provide supplemental water for irrigation of the Cornell Farms vineyards in lieu of drawing that amount of water from the existing supply well. Prior to its use for irrigation, the harvested rain water oxygen would be aerated with a dissolved oxygen meter, and a basic sand or other membrane filter.

The winery would also use treated winery process water to provide additional supplemental water for the existing Cornell Farms vineyards (see discussion under Wastewater Treatment and Disposal, below).

The proposed winemaking operations would incorporate a number of water conservation measures. The two largest uses of water in the winery operations would be for cleaning/sanitizing and barrel soaking/maintenance. The proposed winery would use ozone instead of caustic/citric solutions for sanitizing, and use steam for barrel soaking/maintenance to reduce water demand.<sup>4</sup>

### ***Wastewater Treatment and Disposal***

Two sources of wastewater would be generated and treated at the winery: winery process wastewater and domestic wastewater.

The winery process wastewater would be collected and pumped to a fully enclosed aerobic package treatment plant located on the knoll northeast of the proposed winery buildings, where it would be clarified and treated in conformance with applicable Regional Water Quality Control Board (RWQCB) standards. The winery process wastewater would first undergo pretreatment by being passed through stainless steel screens, and then conveyed to a clarifying tank for solids separation. The wastewater would then be pumped to the primary treatment system, where it would undergo pH control (to obtain a pH between 6.0 and 9.0).<sup>5</sup> The process water would then be treated using an equalization and sludge digestion tank and aeration basin. Following primary treatment, the process water would then be stored in an enclosed, approximate 46,000-gallon capacity water tank (eight feet in height by 30 feet in diameter) at this site, and then pumped

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<sup>4</sup> Sanitizing winery equipment using conventional methods requires washing with a caustic solution, rinsing with water, then washing with a citric solution, and then rinsing with water again. In contrast, the proposed use of water to which ozone has been added would achieve sanitation, but with a single pass, using substantially less water. In addition, traditional barrel maintenance involves several gallons of water per barrel, whereas the proposed use of a steam generator would substantially reduce water use per barrel cleaned.

<sup>5</sup> pH (Potential Hydrogen) is a measure of the acidity or alkalinity of the water.

through a filter and conveyed to the Cornell Farms vineyards irrigation system to provide supplemental water for the vineyards. Stems and pomace from the winery process wastewater would be screened, collected and placed in a compost area on the 560 Wappo Road property, and then reclaimed as a soil amendment in the vineyards.

The domestic wastewater would be collected into a conventional concrete septic tank and then pumped to the new leach field at the 560 Wappo Road property site, where it would be pre-treated and then disposed at the leach field. A percolation test for this system was approved by PRMD Well and Septic Division on June 23, 2009 (Permit #SEV09-0223). The domestic wastewater would be conveyed to the leach field via an approximate 3,000 foot long pipe installed beneath Wappo Road.

A pump house for the fire suppression system would be located just off Wappo Road adjacent to the treatment plant.

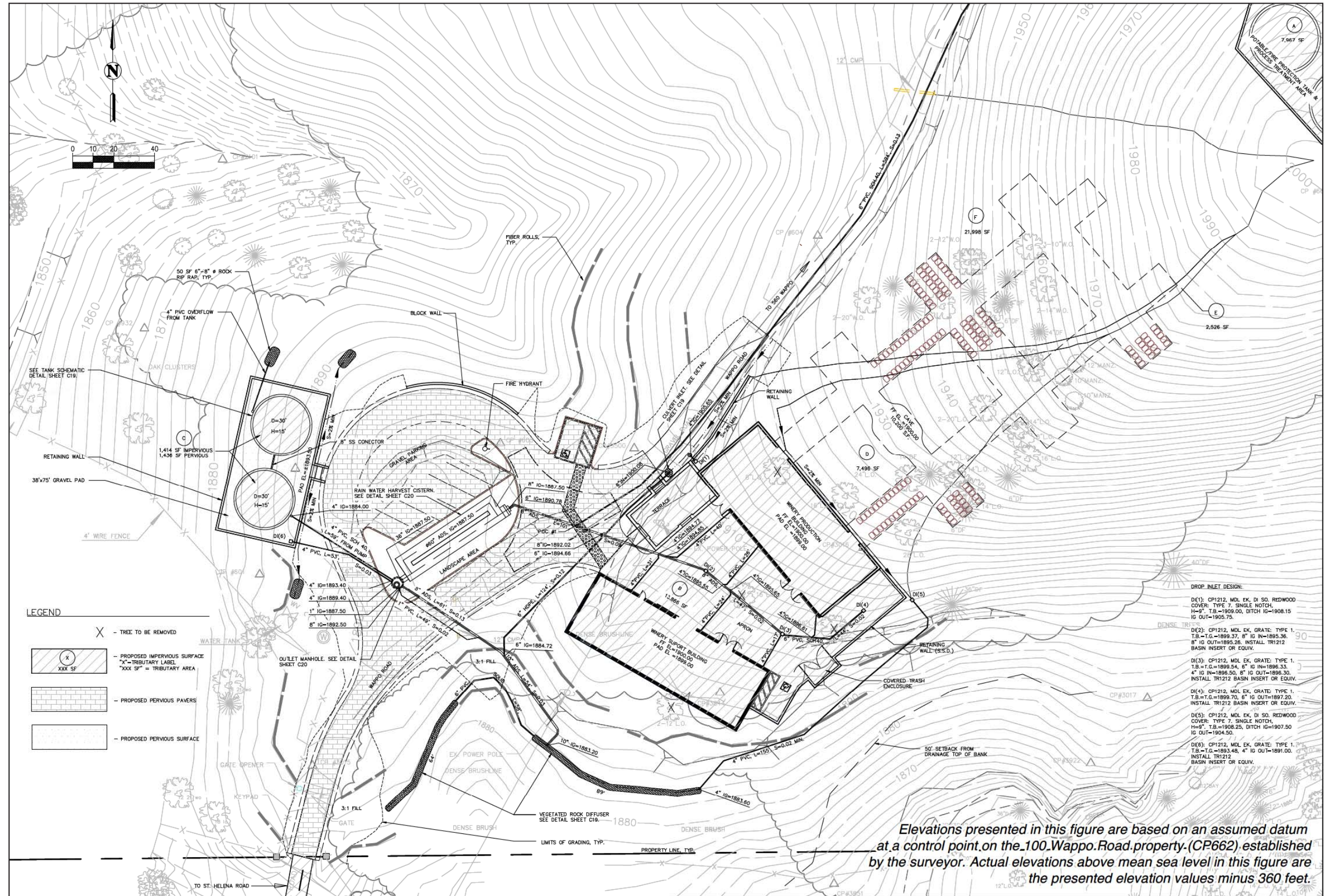
### ***Stormwater Collection and Control***

The proposed stormwater system site plan for the winery is presented in **Figure III-10**, and additional detail is provided in Appendix PD. As discussed under Water Supply and Storage, above, rainwater collected from the winery building roofs, apron, terrace, tank pads and pumphouse building roof would be stored and used as the water supply source for irrigation of the winery landscaping and as a supplemental water source for irrigation of the Cornell Farms vineyards. All other stormwater runoff occurring in the vicinity of the winery would either infiltrate into the ground, or flow to storm drains, culverts, and natural drainages. As shown in Figure III-7, certain areas within the winery site would contain drop inlets where stormwater runoff would be collected, and routed through pipes to vegetated rock diffusers for stormwater energy dissipation.

**Figure III-11** and Appendix PD, Sheets C10 through C12 illustrate proposed stormwater improvements on the lower portion of Wappo Road. As shown in these figures, rain gardens and vegetated buffers would also be installed along Wappo Road to collect and treat stormwater runoff, and crushed rock shoulders would be installed for stormwater energy dissipation. The proposed rain gardens would be small-scale soil- and plant-based features that would provide for the capture, treatment and infiltration of stormwater runoff. The vegetated buffers would consist of gently sloping vegetated areas and would be used to slow and treat stormwater runoff primarily from proposed paved portions of Wappo Road.

### **Landscaping**

**Figure III-12** illustrates the proposed preliminary landscaping plan for the winery site. Under the proposed Project, certain existing trees within the building footprint would be removed and/or transplanted. The preliminary landscaping plan proposes a variety of new trees, shrubs and groundcover to be planted throughout the Project site for aesthetics and erosion control, and to offset the effect of trees that would be removed as a result of development of the winery. As shown in Figure III-12, new trees proposed on the winery site include Douglas fir, Coast live oak



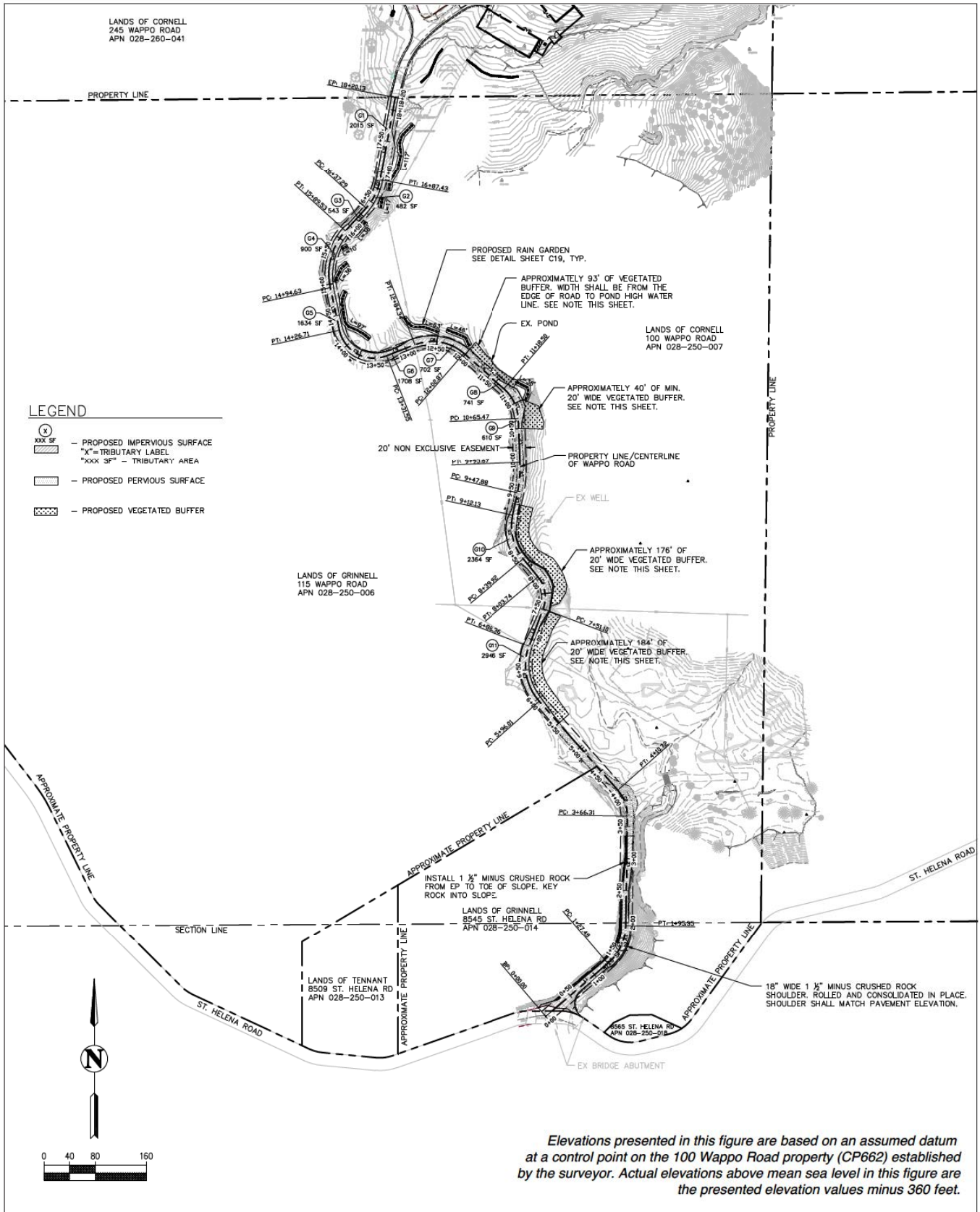
SOURCE: Atterbury & Associates, 2011

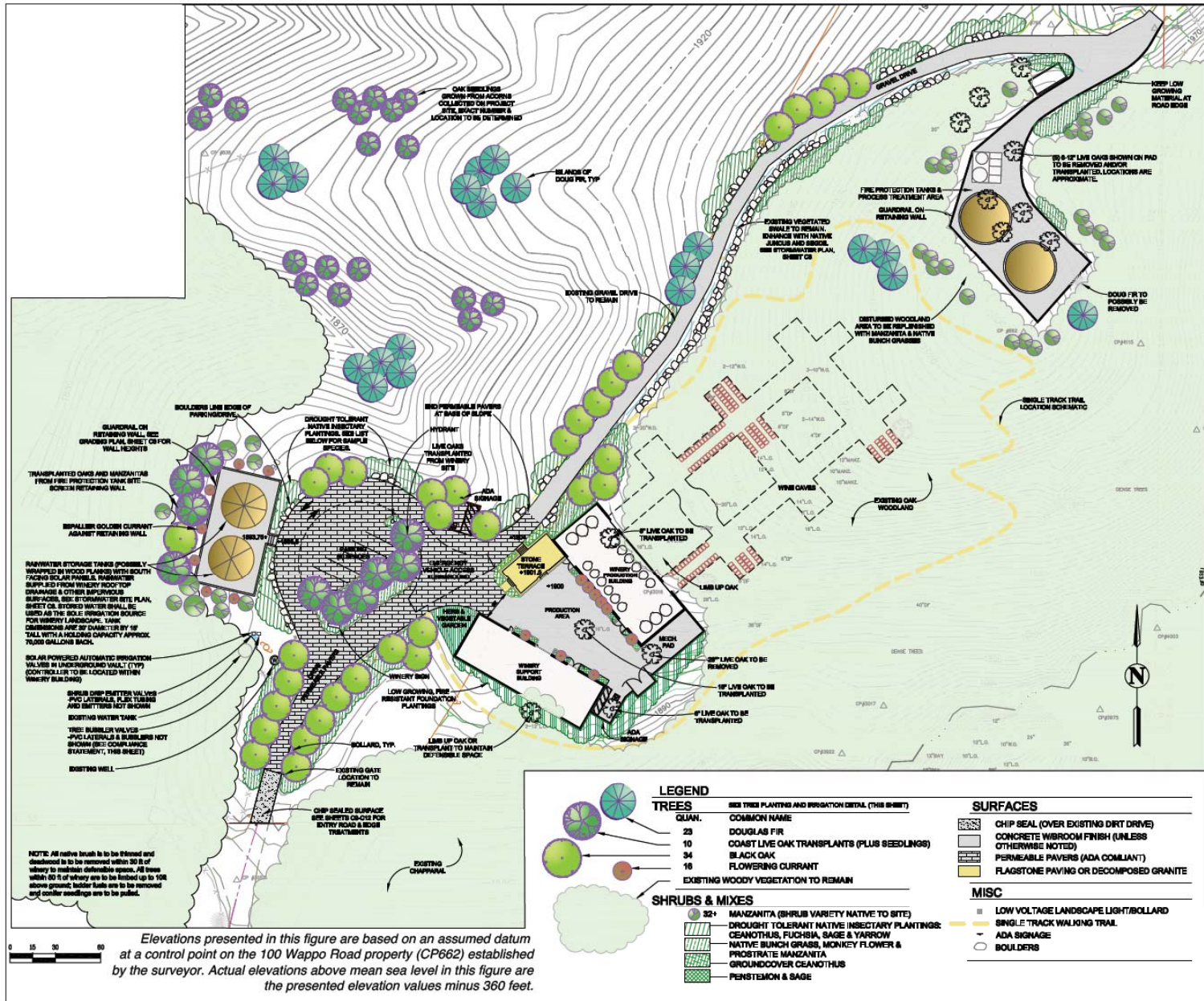
Henry Cornell Winery . 211996

**Figure III-10**  
Proposed Winery Stormwater Improvements

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SOURCE: Maggie Young, 2011

Henry Cornell Winery . 211996

**Figure III-12**  
Proposed Winery Landscaping Improvements

(transplants), black oak and flowering currant. A variety of drought tolerant native plantings are proposed, including low-growing fire resistant planting in the vicinity of the proposed buildings. As discussed previously, stored rainwater would be the sole irrigation source for proposed winery landscaping. **Table III-1** presents the proposed plant list for the vegetated buffers and rain gardens on Wappo Road.

**TABLE III-1  
PROPOSED PLANT LIST FOR VEGETATED BUFFERS AND RAIN GARDENS ON WAPPO ROAD**

Botanical Name	Common Name	Botanical Name	Common Name
VEGETATED BUFFER		RAIN GARDEN	
<b>Trees</b> <i>Quercus kelloggii</i> Black oak <i>Quercus agrifolia</i> Live oak <i>Arbutus menziesii</i> Madrone <i>Acer macropylum</i> Maple		<b>Shrubs and Vines</b> <i>Rosa californica</i> California rose <i>Cornus sericea</i> Dogwood <i>Lonicera hispidula</i> Honeysuckle <i>Physocarpus capitatus</i> Nineback <i>Calycanthus occidentalis</i> Spicebush	
<b>Shrubs and Vines</b> <i>Ceanothus ssp.</i> Ceanothus <sup>a</sup> <i>Rhamnus californica</i> Coffeeberry <i>Baccharis pilularis</i> Coyote brush <i>Ribes californicum</i> Gooseberry <i>Lonicera hispidula</i> Honeysuckle <i>Arctostaphylos ssp.</i> Manzanita <sup>a</sup> <i>Symphoricarpos albus</i> Snowberry <i>Rosa gymnocarpa</i> Wood rose		<b>Herbs</b> <i>Aster chilensis</i> California aster <i>Rudbeckia californica</i> Cone flower <i>Carex densa</i> Dense sedge <i>Carex tumulicola</i> Foothill sedge <i>Juncus patens</i> Gray rush <i>Aesclepias ssp.</i> Milkweed <i>Mimulus ssp.</i> Monkey flower <i>Carex globosa</i> Round fruited sedge <i>Ranunculus occidentalis</i> Western buttercup	
<b>Shrubs and Vines</b> <i>Festuca californica</i> California Fescue <i>Salvia sonomensis</i> Creeping sage <i>Lupinus nanus</i> Field lupine <i>Castilleja foliosa</i> Indian paintbrush <i>Mimulus aurantiacus</i> Monkey flower <i>Polystichum munitum</i> Sword fern <i>Fragaria chiloensis</i> Woodland strawberry <i>Achillea millefolium</i> Yarrow			

NOTE:

<sup>a</sup> Ceanothus and Manzanita species would be native to the area (watershed) and propagated from on-site sources if feasible.

SOURCE: Maggie Young, Landscape Architect, 2011

As illustrated in Figure III-12, a single-track gravel walking trail is proposed to be developed on the knoll on the east side of Wappo Road.

## Proposed Biological Measures

### ***Tree Transplant and Replacement***

As explained in greater detail in Section IV.D, Biological Resources, oak trees within the Project site that would be removed under the Project are proposed to either be transplanted or replaced with new oak trees as part of the landscaping plan and in accordance with recommendations provided by a certified arborist. This includes transplanting at least three coast live oak trees that

are in good condition to the location proposed for the parking area and planting new oak trees at a minimum of 3:1 replacement to impact ratio in the grasslands adjacent to the parking area.

**Pre-Construction Biological Surveys**

As explained in greater detail in Section IV.D, Biological Resources, the applicant’s biologist conducted protocol-level surveys on the Project site in 2011 for the California red-legged frog (CRLF), a federally threatened species and a California Species of Special Concern. While no CRLF were identified during the survey, nevertheless, the applicant proposes as part of the Project to use a USFWS-approved biologist to conduct CRLF preconstruction surveys within the limits of the proposed winery development site prior to the commencement of any construction activities. The preconstruction CRLF surveys would be conducted in manner that FYLF and WPT species would also be identifiable.

**Construction**

Construction of the winery would occur over approximately 19-months, with construction beginning in April 2013 and ending in October 2014. **Table III-2** presents the principal winery construction components, estimated duration of construction, and estimated number of construction workers.

**TABLE III-2  
CONSTRUCTION SCHEDULE AND WORKERS**

<b>Construction Component</b>	<b>Duration<sup>a</sup> (months)</b>	<b>Estimated # Construction Workers</b>
Establish subgrade on Wappo Road Prepare road surface for construction traffic Install water quality features	2	4-6
Rough-grade and excavate apron area Excavate soil nail wall at cave entrance Excavate for pad for water tanks for fire protection and potable water	2	4-6
Soil nail wall installation at cave entrance and fire Fire/potable water tank pad	2	8
Construct rain harvest tank pad (grading and retaining walls)	2	6
Winery support building stem wall grading and construction	2	6
Wine cave excavation, interior finish work and utility installation	10	6
Site utility trenching and pipe installation	2	8
Leachfield installation	1	3
Water tank installation (rain harvest, process wastewater, fire/potable water) Process wastewater plant installation	1	4
Winery production and support building construction	6	8-14
Final site grading and paving	2	6
Wappo Road surface improvements	2	5
Landscaping/irrigation system installation	2	4

NOTE:

<sup>a</sup> Several of these individual construction component phases would overlap.

SOURCE: Atterbury and Associates, 2012

Several of the individual construction component phases would overlap. There would be an average of approximately 13 construction workers on-site throughout the construction period. During an anticipated 2-month peak period in the final stages of construction (i.e., winery building construction, final site grading and paving, Wappo Road improvements and landscaping/irrigation installation), there would be a maximum of approximately 27 workers on-site.

The total area of disturbance on-site affected by grading and construction would be less than 3 acres. Approximately 15,400 cubic yards (cy) of cut and 1,400 cy of fill would be required to terrace the Project site for the proposed buildings and tank pads, excavate the cave, and grade the roadway. All Project construction would be carried out using mechanical methods; no blasting is anticipated.

Construction of the proposed cave portal would involve sequential excavation of approximately 5-foot high benches on the slope using an excavator, working from the top-down, and installing soil nails and shotcrete<sup>6</sup> on the slope face for stabilization. This process would be repeated for each bench until the full desired depth of the retained cut is achieved. The cave would be excavated using a milling-type cutting tool attached to an excavator or roadheader, and advancing the tunnel heading a few feet per day. Shotcrete support would be applied to the working slope daily. The cave would be excavated at an approximate grade of 1.5-2% sloping up from the portals to allow for gravity trench drains and the collection of any potential groundwater that may seep into the cave to drain out.

## F. Permit Requirements

This EIR is intended to provide the information and environmental analysis necessary to assist public agency decision-makers in considering all of the approvals necessary for the planning, development, construction, operation, and maintenance of the proposed Project.

The County of Sonoma serves as Lead Agency for the proposed Project under CEQA. As Lead Agency, the County is responsible for reviewing and certifying the adequacy of this EIR. The County will use the EIR in its decisionmaking for considering whether to approve the proposed Project. Approvals that would be required from Sonoma County include a Use Permit for the winery operations, and grading and building permits for the winery construction.

Additional approvals may be required from the State Department of Fish and Game, State Department of Conservation, RWQCB, and the U.S. Fish and Wildlife Service.

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<sup>6</sup> Shotcrete is concrete conveyed through a hose and pneumatically projected at high velocity onto the working surface. Shotcrete undergoes placement and compaction at the same time due to the force with which it is projected from the nozzle.

## References

*(The references cited below are available at the Sonoma County Permit and Resource Management Department, 2550 Ventura Avenue, Santa Rosa, California, unless otherwise specified.)*

Association of Bay Area Governments (ABAG), Focus Initiative Priority Conservation Areas, adopted 2008.

Sonoma County, *Sonoma County General Plan 2020*, adopted September 2008a.

Sonoma County, *Franz Valley Area Plan*, as modified 2008b.

Sonoma County, *Zoning Regulations – Chapter 26*, as amended 2012.

## IV.A Summary of Initial Study (Transportation and Traffic Portion only)

### Introduction

On August 9, 2010, an Initial Study and Draft Mitigated Negative Declaration (MND) were prepared for an earlier version of the Project (see Appendix B in this EIR). As discussed in Chapter III under Project History, the version of the Project proposed at that time was similar to the Project as currently proposed. The principal difference was that the prior version of the Project included a proposed water conservation easement on the 100 Wappo Road property. On September 23, 2010, the Sonoma County Board of Zoning Adjustments (BZA) adopted the MND and approved the Project. Prior to the appeal hearing, the applicant and the County agreed to have an EIR prepared for the Project to facilitate full public disclosure. The applicant has since modified certain Project aspects of the Project.

This section summarizes relevant prior impact analysis, conclusions and mitigation measures from the 2010 Initial Study, and provides revised or new information, analysis and mitigation measures where appropriate to reflect the Project as currently proposed. In summary, on the basis of the 2010 Initial Study, augmented as appropriate with revised or new analysis and mitigation measures contained herein, it is determined that the following environmental topics have been sufficiently analyzed and mitigated in this section, and therefore, do not require further analysis in this EIR.

1. Transportation and Traffic
2. Air Quality
3. Greenhouse Gas Emissions
4. Noise
5. Aesthetics
6. Agriculture and Forestry Resources
7. Cultural Resources
8. Hazards and Hazardous Materials
9. Land Use and Planning
10. Mineral Resources
11. Population and Housing
12. Public Services
13. Recreation
14. Utilities and Services Systems

It is also determined that based on the scope of Project changes and new information available, the following environmental topics require further analysis in this EIR:

1. Geology, Soils, and Seismicity
2. Hydrology and Water Quality
3. Biological Resources

The information in the Initial Study and this chapter applies Appendix G of the CEQA Guidelines broadly to impacts of the environment on the Project, and thus goes beyond what CEQA requires.

## Summary of Initial Study Environmental Topics

### Transportation and Traffic

There are no changes in the physical or regulatory environment, or revisions to the proposed Project, that would substantially alter any previous analysis or conclusions reached in the 2010 Initial Study with respect to Project transportation and traffic impacts.

As was previously determined in the 2010 Initial Study, based on substantial evidence provided or cited in the Initial Study, the proposed Project would not result in any of the following: conflict with adopted transportation plans, ordinances or policies establishing measures of effectiveness of the circulation system; conflict with applicable congestion management program; or conflict with adopted policies, plans or programs regarding public transit, bicycle or pedestrian facilities or decrease the performance or safety of those facilities. The 2010 Initial Study also concluded that the Project would not affect air traffic patterns; increase hazards due to a design feature or incompatible uses; or result in inadequate parking capacity.

Nevertheless, in consideration of comments raised in response to the Notice of Preparation (NOP) for this EIR, the following discussion provides supplemental information, including current traffic conditions of St. Helena Road, Project vehicle trip generation during construction and operation, and potential Project construction and operational effects on roadway operations and traffic safety.

### ***Transportation Network***

St. Helena Road is a winding, mountainous two-lane rural roadway that provides access to the Project site, connecting to Santa Rosa and other points west, and to Napa Valley to the east. St. Helena Road has no shoulders. Travel lanes vary between 8 and 10 feet in width, with some narrower stretches. The posted speed limit on St. Helena Road is 40 miles per hour (mph), with several signed advisory 25 to 30 mph curves. Signage is also posted on St. Helena Road advising against use of the road by two-axle trucks over 30 feet in length, and three- to four-axle truck/trailers totaling over 40-feet in length. Wappo Road, which is partially asphalt-paved, and partially gravel-surfaced, is a private road and provides primary vehicular access to and within the Cornell Farms property.

The *Sonoma County General Plan 2020* classifies St. Helena Road as a “rural minor collector” between Santa Rosa and the Sonoma-Napa County line (Sonoma County, 2008). The General Plan, Sonoma County Transportation Authority (SCTA) *2009 Comprehensive Transportation Plan for Sonoma County*, and *2010 Sonoma County Bicycle and Pedestrian Plan* all identify a proposed Class III bikeway<sup>1</sup> on St. Helena Road between Santa Rosa and the Sonoma-Napa County line; the proposed bikeway is designated as a “low” priority funding project. In the

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<sup>1</sup> Class III bikeways (signed routes wherein bicycles share the road width with vehicles) are intended to provide continuity to the County bicycle network. Bike routes are established along through routes not served by Class I (off-road bike paths) or Class II (on-road bike lanes separate from vehicle lanes), or to connect to discontinuous segments of Class I or II bikeways.



Project area, St. Helena Road is not served by public transit (Sonoma County, 2010, Sonoma County Transportation Authority, 2009).

### ***Existing Traffic Volumes***

In order to characterize existing traffic conditions on St. Helena Road, vehicle volume data were collected on St. Helena Road near Wappo Road from Tuesday, March 6 through Sunday, March 11, 2012, using 24-hour count machines. Weather conditions were clear on these days. Average midweek traffic volumes averaged approximately 540 vehicles per day (vpd), with a.m. peak-hour (8:15 a.m. to 9:15 a.m.) volumes of approximately 50 vehicles per hour (vph) and p.m. peak-hour (5:15 p.m. to 6:15 p.m.) volumes of approximately 60 vph. The Saturday traffic volume was lower than on weekdays, approximately 490 vpd, with a peak-hour volume of approximately 60 vph (in the afternoon). Sunday traffic volumes were lower still, with a traffic volume of 280 vpd, and an afternoon peak-hour volume of approximately 30 vph. These traffic volumes and patterns indicate that St. Helena Road primarily serves local traffic, and does not serve as a principal tourist route between Sonoma and Napa valleys.

### ***Construction Project Vehicle Trip Generation***

As described in Chapter III, Project Description, construction of the winery would occur over an approximately 19-month period. Construction activities that would generate off-site traffic would include the daily arrival and departure of construction workers, delivery of materials, and the off-site hauling of excess soil and construction debris. The following provides details on each of the Project vehicle trip generation elements.

#### **Construction Worker Trips**

As described in Chapter III, Project Description, it is estimated that there would be an average of approximately 13 construction workers on-site each day throughout the construction period, which would account for approximately 16 daily roundtrips. There would be a daily maximum of up to 27 construction workers on-site during the anticipated 2-month peak construction period, which would account for an estimated 34 daily roundtrips.<sup>2</sup>

#### **Construction Truck Traffic**

Exporting of excess soil created during cave excavation and site grading would be the largest generator of truck traffic during construction. In addition, there would be deliveries of materials to the Project site throughout the construction period, including shipments of concrete, lumber, and other building materials for on-site structures, utilities, road improvements, and landscaping. **Table IV.A-1** presents the estimated volume of construction materials and associated truck trips for each Project construction component.

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<sup>2</sup> Construction worker vehicle round trips estimated based on 1 worker per vehicle, and 1.25 daily round trips per worker.

**TABLE IV.A-1  
CONSTRUCTION TRAFFIC ESTIMATES**

Construction Component	Material Import			Material Export			Total Estimated Truck Round Trips for Material Transport <sup>a</sup>	
	Material Type	Quantity (cubic yards or as shown) <sup>b</sup>	Duration (Work Days)	Material Type	Quantity (cubic yards or as shown) <sup>b</sup>	Duration (Work Days)	Import	Export
Establish subgrade on Wappo Road Prepare road surface for construction traffic Install water quality features	Gravel Surfacing	225 CY	15	Excess road cut	3,089 CY	22	23	309
Rough-grade and excavate apron area Excavate soil nail wall at cave entrance Excavate for pad for water tanks for fire protection and potable water	--	--	--	Excess apron/ tank pad cut	3,833 CY	15	0	383
Soil nail wall installation at cave entrance and fire/potable water tank pad	Wall construction materials and concrete	1,041 CY	22	--	--	--	104	0
Construct rain harvest tank pad (grading and retaining walls)	Wall construction materials and pad materials	7 truck loads		Excess pad cut	138 CY	15	7	14
Winery support building stem wall grading and construction	Wall construction materials	2 truck loads		--	--	--	2	0
Wine cave excavation, interior finish work and utility installation	Utility delivery and cave finish concrete	20 truck loads		Cave spoils	7,640 CY	220	20	764
Site utility trenching and pipe installation	Utility delivery and controlled density fill import	3 truck loads		--	--	--	3	0
Leachfield installation	Tank and system component delivery	5 truck loads		--	--	--	5	0
Water tank installation (rain harvest, process wastewater, fire/potable water) Process wastewater plant installation	Tank and PW Plant component delivery	8 truck loads		--	--	--	8	0
Winery production and support building construction	Material delivery	25 truck loads		Construction waste	5 bins	entire Project	25	5
Final site grading and paving	Paving material delivery	5 truck loads		--	--	--	5	5
Wappo Road surface improvements	Gravel and asphalt concrete	547 CY	20	--	--	--	55	0
Landscaping/irrigation system installation	Plant and material delivery	20 truck loads		--	--	--	20	0

NOTE:

<sup>a</sup> Average capacity of haul trucks would be 10 cubic yards.

SOURCE: Atterbury and Associates, 2012

As shown in Table IV.A-1, over the span of the construction period, and using an average truck capacity of 10 cubic yards, there would be a total of approximately 1,750 truck round trips (275 truck round trips associated with importing material, and 1,475 truck round trips associated with exporting material). The majority of the truck trips would occur during discrete phases within the construction period. The peak daily hauling would occur during the two initial construction phases (grading of Wappo Road, and grading and excavation of the apron and tank pad areas), when as many as 40 daily truck round trips could be expected over a period of approximately seven weeks. The proposed wine cave excavation phase would occur over a longer period of time, but the daily rate of excavation would be lower, resulting in an average of less than five truck round trips per day during this phase.

### ***Project Operational Vehicle Trip Generation***

The proposed winery would generate new, year-round vehicle trips associated with winery operations. During the harvest season, the Project would also generate new vehicle trips associated with transport of grapes to the winery, and eliminate existing vehicle trips associated with transport of grapes from Cornell Farms to other wineries. The following provides detail on each of the Project operational vehicle trip generation elements.

**Wine Delivery.** The applicant estimates that there would be an average of less than one round-trip per month associated with delivery of wine to other locations. This would consist of delivery of wine barrels and other supplies 4 to 6 times annually, and a bottling van once annually.

**Winery Employees.** The winery would have up to 3 employees year-round, and an additional 4 employees during harvest season. As a result, there would be an estimated 5 to 11 round trips per day associated with winery employees, depending on season.<sup>3</sup>

**Wine Tasting and Special Event Visitors.** As described in Chapter 3, Project Description, the winery would accommodate up to 15 visitors on weekdays for wine tasting. As visitors would be expected to arrive in small groups, and by appointment only, it is estimated that this would generate up to approximately 6 round trips per weekday.<sup>4</sup>

The winery would also hold up to 10 special events per year, with a maximum of ten guests per event. These special events could occur on weekdays or weekend days, but would not coincide with days when wine tasting would occur. It is estimated that these events would generate up to 4 visitor round trips.<sup>5</sup> Associated special event trips could include one catering truck round trip and one server staff car round trip.

**Other Miscellaneous Operational Trips.** The winery would experience a minimal number of other operational trips, such as small package deliveries, which could account for 1 to 2 vehicle

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<sup>3</sup> Employee vehicle round trips estimated based on 1 employee per vehicle, and 1.5 daily round trips per employee.

<sup>4</sup> Visitor vehicle round trips estimated based on average of 2.5 visitors per vehicle occupancy, and 1 daily round trip per vehicle.

<sup>5</sup> *Ibid.*

round trips per week. Any other potential vehicle trips, such as occasional maintenance-related vehicles, would occur infrequently.

**Trucks Shipments of Grapes During Harvest Season.** Grapes are currently shipped from Cornell Farms to other wineries during harvest season, from mid-September through October of each year. As described in Chapter III, Project Description, at maximum production approximately 150 tons of grapes would be processed annually at the winery. Under these conditions, the existing vineyards on the Cornell Farms property would provide approximately 100 tons (two-thirds) of the grapes, with the balance (50 tons or one-third) transported to the winery from one or more off-site vineyards.

Because the proposed winery would use all of the grapes from the adjoining Cornell Farms vineyards, the Project would result in the elimination of existing off-site hauling of wine grapes. The applicant states that, currently, grapes are typically picked up by customers on a select basis or shipped off-site by the winery in small lots (average of  $\leq 2$  tons per truck load), amounting to a total of 50 or more round-trip truck trips during harvest season. Under the Project, these existing truck trips would not occur, as grapes would be hauled internally within the Cornell Farms property directly to the proposed winery.

As noted above, under maximum production conditions, up to 50 tons of grapes would be hauled to the winery from one or more off-site vineyards. The applicant states that grapes brought to the winery would occur in comparatively larger shipments (approximately 10 tons per truckload) than the current shipments of grapes to other wineries. At an average of 10 tons per truckload, a total of approximately 5 round-trip truck trips associated with transport of grapes from other vineyards to the proposed winery would occur during harvest season.

### ***Project Construction Impacts***

Project construction traffic would be temporary, intermittent, and dispersed throughout the day. The maximum Project construction truck trips (up to 80 one-way trips per day over a seven week period) translates to one truck approximately every six minutes traveling to or from the Project site over each 8-hour work day. Comparatively fewer daily truck trips would be generated during subsequent construction phases, resulting in lower truck frequencies during those phases. The movement of large Project-related construction trucks travelling to and from the Project site would be expected to result in increased congestion and lower rates of speed for other vehicles, particularly on St. Helena Road. Because the effect would be temporary and intermittent, it is considered less than significant, and no mitigation is required. However, since Project construction traffic would have some adverse (though less-than-significant) effect on traffic flow on roadways serving the site, the County shall require as a condition of approval that off-site transport of materials and equipment to and from the site should be limited to off-peak traffic periods. This condition shall be incorporated into contract specifications to ensure implementation by the construction contractor(s).

As described above, St. Helena Road is narrow and winding and the road has no shoulders, and consequently, the movement of large Project construction trucks travelling St. Helena Road could

result in the potential for conflicts with other traffic, and consequently, the potential for traffic safety effects. However, as previously stated, the construction period, and particularly the peak construction period, is limited in duration. Given the frequency of Project truck trips, even during the peak construction period, the Project effect on traffic safety would be less than significant.

Roadway pavement degrades over time due to heavy vehicles. The effect is incremental and cumulative over the approximately 20-year life span of pavement. Roadway degradation effects are generally considered for Projects that result in a long-term or permanent increase in heavy truck trips, and not for short-term construction truck traffic. Considering that the construction period for the Project would be limited, construction-related truck traffic would not result in a substantial adverse effect on roadway condition, and the impact is considered to be less than significant.

Project construction activities proposed along lower Wappo Road (e.g., roadway paving, shoulder and landscaping improvements) could result in temporary delays for traffic on Wappo Road and/or temporary closure of one lane of traffic on Wappo Road. Considering that the construction along lower Wappo Road would be limited in duration and would affect few residences, the impact to traffic flow and emergency access would be less than significant. Furthermore, any construction work within the public right-of-way where Wappo Road joins St. Helena Road would require an encroachment permit from Sonoma County. As part of that permit, the County would require appropriate traffic control measures to ensure that traffic flow and safety conditions on St. Helena Road would be maintained on this roadway during construction. This permit process would further minimize the Project's effect on traffic and emergency access due to temporary construction.

### ***Project Operational Impacts***

The estimated operational vehicle trip generation described above indicates that during the majority of the year (January through mid-September, and November through December), the winery would generate approximately 12 daily round-trips, primarily occurring on weekdays during daytime hours, and associated with employees and wine-tasting visitors. These trips would consist almost entirely of passenger vehicles.

During the harvest season (mid-September through October), additional employees would increase the total daily passenger vehicle trips to approximately 18 daily weekday round trips and approximately 6 weekend day round trips. There would also be a net decrease of over 40 truck round trips of wine grape shipments from Cornell Farms during the harvest season, compared to existing conditions.

Vehicle trips generated during evening hours would be limited to 10 evenings per year, when special events would result in approximately 6 round trips associated with visitors and event catering.

Given the existing traffic volumes on St. Helena Road, and the estimated Project operational trip generation estimates, Project operational trips would not be expected to contribute substantially to

daily traffic volumes or to have an adverse effect on existing levels of service or traffic safety on St. Helena Road. Furthermore, during harvest season, St. Helena Road would experience a net decrease in truck traffic generated at Cornell Farms compared to existing conditions, due to a net decrease in wine grape shipments. In addition, many of the Project vehicle trips would occur outside of peak commute hours. Consequently, the operational effects of the Project on traffic operating conditions and traffic safety on area roadways would be less than significant. The net decrease in truck traffic associated with grape shipments would also reduce the effect of ongoing Cornell Farms operations on roadway pavement conditions.

As described in Chapter III, Project Description, Wappo Road would be improved from St. Helena Road to the proposed winery parking area to provide all-weather access and comply with County Fire Safe Standards. These improvements would ensure that adequate emergency access would be provided, and potential Project effects to emergency access would be less than significant. As part of project approval, the site plans would also be subject to review by the County Department of Emergency Services to ensure adequate emergency vehicle access to the site.

# CHAPTER VI

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## Impact Overview

### A. Significant and Unavoidable Environmental Impacts

The proposed Project, if implemented, could result in significant adverse environmental impacts. However, project design features proposed as part of the Project, and mitigation measures identified by this EIR, would avoid or reduce all impacts to a less-than-significant level. Consequently, no significant and unavoidable environmental impacts are identified in this EIR.

### B. Cumulative Impacts

CEQA defines cumulative impacts as two or more individual impacts which, when considered together, are substantial or which compound or increase other environmental impacts. The cumulative analysis is intended to describe the “incremental impact of the project when added to other, closely related past, present, or reasonably foreseeable future projects” that can result from “individually minor but collectively significant projects taking place over a period of time (*CEQA Guidelines* Section 15355).

The geographic scope of area and time horizon considered for cumulative impacts addressed in the Draft EIR was dictated by the specific type and nature of impact being considered. For instance, Project cumulative effects on hydrology and water quality were considered in the context of the Upper Mark West watershed, whereas the cumulative context for potential geologic, seismic and soil impacts are localized. When considering Project contribution to cumulative air quality impacts on the other hand, the geographic scope of area is the Bay Area Air Basin under the jurisdiction of the Bay Area Air Quality Management District. As discussed elsewhere in this EIR, there are no other substantial reasonably foreseeable future projects proposed in the Project site vicinity.

Each topical analysis presented in Chapter IV, Environmental Setting, Impacts, and Mitigation Measures, of this report considers possible cumulative impacts related to the discussion, as applicable, and identifies circumstances in which the project would contribute to significant cumulative impacts.

### C. Growth Inducing Impacts

Section 15126.2(d) of the *CEQA Guidelines* requires that an EIR discuss the ways in which a project could foster economic or population growth, or the construction of additional housing,

either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth.

Development of the Project would generate construction-related employment during the construction phases of project. As discussed in Chapter III, Project Description, there would be an average of approximately 13 construction workers on-site throughout the construction period, with the peak period including up to 27 workers on-site. The Project's labor force would be expected to be primarily local. Given the number of workers with applicable skills who reside in Sonoma County and environs, it is unlikely that a substantial amount of construction workers would relocate to the County to work on the construction of the proposed Project. Thus, the project would not be considered growth-inducing from a short-term construction employment perspective.

As discussed in Chapter III, the new employment associated with operation of the Project would be relatively limited, estimated at three full-time employees year round, with up to four additional employees during harvest season. This level of long-term employment would also not be expected to induce growth.

As discussed in Chapter III, the proposed Project would provide a number of infrastructure improvements, including groundwater storage, rainwater harvesting and storage, winery process water treatment and storage facilities, domestic wastewater treatment and disposal facilities, and storm drainage improvements. These proposed utilities infrastructure improvements would all be located on-site, and would be sized to adequately serve the proposed Project uses and existing Cornell Farms vineyards, with limited future expansion potential. Similarly, the proposed improvements to Wappo Road are designed to provide adequate emergency access and improve drainage, and would not increase traffic volume capacity on this roadway.

## **D. Effects Found not to Be Significant**

The environmental effects of the proposed project are identified and discussed in detail in Chapter IV, Environmental Setting, Impacts, and Mitigation Measures, and are summarized in the Chapter II, Summary in this EIR. All identified significant environmental effects of the project would be less than significant with mitigation.



## Letter C. Gayle Sweigert and James McLean

**Comment C-2:** *“The Draft EIR does not address the cumulative impact of over 1,000 trips will have on St. Helena Road, which include trucks that will run every 6 minutes, for a period of at least 18 months. St. Helena Road is in fragile condition and is a lifeline to those only access to property is from the road. It is no longer included in Sonoma County’s list of priority roads for improvement. This project will devastate St. Helena Road and the community that relies on it and it is barely discussed, nor effectively mitigated, in the Draft EIR. This is a key issue, and the EIR should not be approved until the project is revised so that St. Helena road is not so negatively impacted.”*

**Response to Comment C-2:** The commenter indicates that the Draft EIR does not address the cumulative impact of Project construction truck trips on St. Helena Road. The commenter inaccurately characterizes the frequency of Project truck trips as one truck trip every six minutes over a period of 18 months. The Draft EIR states on page IV.A-6 that the maximum frequency, one truck trip every six minutes, would occur over an initial seven week period during construction, and that during subsequent construction phases, lower truck frequencies would occur.

The commenter is also referred to response to Comment E-58, which addresses revisions made both to peak daily Project truck trips and to total Project truck trips over the 18-month construction duration. As explained in response to Comment E-58 and shown in Chapter V, Errata, the total truck trips over the 18-month construction duration are revised upward from 1,750 to 2,250 round trips; however, the peak daily truck trips during the initial seven weeks of construction are reduced from 40 to 24 round trips. For perspective on these changes, the peak frequency of truck trips is revised from one truck every six minutes traveling to or from the Project site to one truck every ten minutes during this initial seven weeks of construction. Note that over the entire course of the 18-month construction period, the total number of Project-generated truck trips would average approximately five truck round trips per work day. The increase in total Project construction truck trips, and the decrease in peak daily construction truck trips, would not change any conclusions previously reached in the Draft EIR regarding short-term construction impacts on traffic flow, traffic safety, and roadwear; these impacts would remain less than significant.

The Draft EIR traffic impact analysis considered the existing traffic on St. Helena Road. There are no other reasonably foreseeable cumulative projects that would affect traffic conditions on St. Helena Road or alter any conclusions reached in the Draft EIR regarding the effect of the Project on traffic flow, safety conditions and/or roadwear. Please see Master Response CUM-1 in Chapter II of this Response to Comments Document.

## Letter D. Susan M. Smith

**Comment D-3:** *“The resulting truck traffic is a threat to all the small and large property owners along our road.”*

**Response to Comment D-3:** The commenter indicates that Project truck traffic would be a threat to property owners along St. Helena Road.

The Draft EIR addresses all potential Project traffic impacts on pages IV.A-6 to IV.A-8, including those related to short-term increases in Project construction truck traffic, and long-term increases in operational truck traffic. The commenter is also referred to response to Comment E-58, which addresses revisions made to both peak daily Project truck trips and total Project truck trips over the 18-month construction duration. These revisions would not change any conclusions previously reached in the Draft EIR regarding short-term construction impacts on traffic flow, safety, and roadwear, which would remain less than significant.

## Letter E. Law Offices of Stephan C. Volker - Draft EIR Comments of New-Old Ways Wholistically Emerging (Stephan C. Volker, Attorney)

**Comment E-58:** *“The DEIR’s analysis of construction-related traffic impacts is inadequate. Despite NOWWE’s pleas for detailed information, the DEIR contains no substantiation of the “construction traffic estimates” in Table IV.A-1. No related studies were made a part of the EIR. It does not appear that all construction equipment was accounted for. As discussed above, the 3,000 foot pipeline could require extensive excavation, particularly if it is placed in bedrock, which would further magnify these figures. The DEIR fails to explain whether and how the swell factor was accounted for in these figures, which could itself inflate the estimates by between 40 and 85 percent. Waldbaum 2010 at 8. The DEIR’s failure to include detailed information prevents meaningful public review of these impacts.”*

**Response to Comment E-58:** The commenter asserts that the Draft EIR’s construction traffic impact assessment is inadequate, and claims that there is no substantiation of the construction traffic estimates in Table IV.A-1. First, the commenter inquires about construction equipment trips. Construction equipment that would be used at the Project site during the construction period (e.g., excavator, loader, crane, paver, etc.) would be delivered once, remain on-site during its period of use, and then removed from the site. The Project applicant estimates approximately 19 pieces of construction equipment would be delivered to the Project site, resulting in a total of approximately 38 truck round trips over the duration of the entire construction schedule. Please see Chapter V, Errata, for acknowledgement of these construction trips in the Construction Project Vehicle Trip Generation presented on pages IV.A-3 to IV.A-5 of the Draft EIR.

The commenter also inquires about haul trips associated with the soil removal from pipeline installation, and if soil swell from excavated soil was accounted for in the truck haul trips. The

Project applicant's original estimate presented in Table IV.A-1 in the Draft EIR assumed the material excavated from the pipeline trench would be used to backfill the trench, along with some import of controlled density fill (CDF) bedding, for an approximate balancing of earthwork. In response to this comment, the Project applicant has revised their estimate to assume 25 percent of soil excavated from trenchwork would be unsuitable for use as backfill, and consequently, would be hauled off-site. In addition, the Project applicant's construction estimate did not assume a soil swell factor when estimating soil quantities. As a result, the Project applicant has also revised their construction estimate to account for a 25 percent swell factor for all soil quantities, thereby increasing the associated number of haul trips. With the above-described revisions, there would be a correlating increase in total Project construction truck round trips (from 1,750 truck round trips to 2,250 truck round trips over the 18-month construction period).

It should also be noted, however, that the Draft EIR (page IV.A-5, third sentence) overestimated the number of peak daily haul trips that would occur during the two initial construction phases, identifying it as 40 daily truck round trips over a period of approximately seven weeks (rather, it should have been reported as 40 daily truck *one-way trips*, or 20 daily truck *round trips*). This overestimation is corrected by staff in this Response to Comments Document as a staff-initiated change. Consequently, when accounting for the above-described increases in total truck trips in response to comments raised, and also accounting for the staff-initiated revision for the overestimation in peak daily construction truck trips, the revised Project peak daily hauling is 24 truck round trips.<sup>20</sup> Consequently, the estimated peak frequency of Project construction trucks discussed under Project Construction Impacts on page IV.A-6 of the Draft EIR is also revised to one truck every ten minutes during the peak seven week construction period (from one truck every six minutes presented in the Draft EIR). The increase in total Project construction truck trips, and the decrease in peak daily construction truck trips, would not change any conclusions previously reached in the Draft EIR regarding short-term construction impact effects on traffic flow, safety, and roadwear, which would continue to remain less than significant. Please see Chapter V, Errata, in this Response to Comments Document, for revisions made to the Project construction traffic discussion on pages IV.A-3 to IV.A-7 of the Draft EIR.

This estimated increase in total construction truck trips would also result in an incremental increase in annual and average daily construction air emissions, and annual construction greenhouse gas emissions. These increases, however, would not change any significance conclusions in the Draft EIR with respect to construction air impacts, which would continue to remain less than significant. Please see Chapter V, Errata, in this Response to Comments Document, for revisions made to the Project construction air quality discussion on page IV.A-9, revisions made to the Project construction greenhouse gas discussion on page IV.A-12, and revised air emission calculations in Appendix AQ of the Draft EIR.

Finally, the lower peak-period daily construction truck trips would result in correlating lower peak daily construction roadway noise levels compared to that presented in the Draft EIR, which also would remain less than significant. Please see Chapter V, Errata, in this Response to

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<sup>20</sup> Calculated as (898 import/export and construction truck round trips in first two phases) / 37 work days = approximately 24 peak daily construction truck round trips.

Comments Document, for revisions made to the Project construction noise discussion on page IV.A-14 of the Draft EIR.

**Comment E-59:** *“The DEIR’s remaining statements are exceedingly conclusory. NOWWE noted that the thousands of truck trips caused by this project could degrade the extremely poor existing surface of St. Helena Road. Scoping Comments at 28. The DEIR fails to substantiate its vague claim that “generally” these impacts are “not” “considered . . . for short-term construction truck traffic.” DEIR IV.A-7. The DEIR also claims that because the “peak construction period” is “limited in duration” it need not analyze in detail the truck traffic that will result or the environmental impacts thereof. DEIR IV.A-7. Yet even on the DEIR’s own flawed terms, “as many as 40 daily truck round trips could be expected over a period of approximately seven weeks” – corresponding to “one truck approximately ever six minutes” – and that for the other seventeen months of construction about “five round trips per day” would occur. DEIR IV.A-5. St. Helena Road is extremely dangerous. Scoping Comments at 28. The DEIR must analyze in detail the safety implications of sending thousands of trucks over a winding mountain road in a period of less than two months. The DEIR must contain facts and analysis, not mere conclusions. Kings County, supra, 221 Cal.App.3d at 736.”*

**Response to Comment E-59:** The commenter asserts the Draft EIR fails to substantiate the statement that roadway degradation effects are generally considered for Projects that result in long-term or permanent increase in heavy truck trips, and not for short-term construction truck traffic.

As stated on page IV.A-7 of the Draft EIR, roadway pavement degrades over time due to heavy vehicles. The effect of repeated loading of the heavy vehicles is incremental (day after day) and cumulative over the approximately 20-year life span of pavement. Evaluation of roadway pavement degradation is relevant only for long-term (on-going) truck trip generation (e.g., quarry operations, lumber mills, landfills or refuse transfer stations, or industrial land uses), not for short-term construction truck traffic. The effect on pavement conditions from the Project-generated increase in truck trips on St. Helena Road would warrant detailed analysis if those trucks were to travel on the road every day for 20 years.

The commenter also asserts the Draft EIR understates the impact of as many as 40 daily truck round trips over a period of about seven weeks on traffic safety on St. Helena Road.

First, as discussed in response to Comment E-58, above, the estimated peak daily hauling is revised to 24 truck round trips (from 40 truck round trips as originally presented in the Draft EIR). Secondly, the Draft EIR presents an appropriate level of analysis and the proper impact determination for the Project-generated truck trips. As stated on page IV.A-6 of the Draft EIR, as revised in this Response to Comment Document, Project construction traffic would be temporary, intermittent, and dispersed throughout the day, with a maximum of up to 48 one-way truck trips per day over a seven-week period (i.e., an average of approximately six trucks per hour [one every ten minutes] traveling to or from the Project site over each eight-hour work day). Comparatively fewer daily truck trips would be generated during subsequent construction phases,

resulting in lower truck frequencies during those phases. That level of truck activity would not have a significant effect on traffic flow or traffic safety.

**Comment E-60:** *“The DEIR proposes that the “County shall require as a condition of approval that off-site transport of materials and equipment to and from the site should be limited to offpeak traffic periods.” DEIR IV.A-6. This measure is not listed as a formal mitigation measure in the DEIR and is therefore unenforceable. Id. The impacts that this mitigation measure will cause are not discussed. If originally the Project would generate one truck every six minutes, how many trucks will be generated with what resulting impacts if they are forced to make all deliveries during off-peak periods?”*

**Response to Comment E-60:** The commenter asserts the condition of approval to limit construction truck trips to off-peak traffic periods, identified in the Draft EIR, is unenforceable because it is not listed as a mitigation measure. The commenter also requests analysis of the impacts associated with this condition of approval.

Contrary to the commenter’s assertion, the stipulation that off-site transport of materials and equipment to and from the Project site should be limited to off-peak traffic periods would be enforceable because it would be a County-required condition of approval, incorporated into contract specifications. Being a condition of Project approval, there is no need for it to be a formal mitigation measure in the EIR.

Regarding the impacts associated with the condition of approval to limit truck trips to the off-peak traffic period, the average frequency of truck trips would increase from one truck every ten minutes (as revised in this Response to Comments Document; see response to Comment E-58, above) to one every nine minutes (based on an off-peak period of seven hours, 9:00 AM to 4:00 PM). The typical peak traffic periods are 7:00 to 9:00 AM and 4:00 to 6:00 PM. That level of truck activity likewise would not have a significant effect on traffic flow or traffic safety.

## **Letter F. Law Offices of Stephan C. Volker - EIR Scoping Comments of New-Old Ways Wholistically Emerging (Stephan C. Volker, Attorney)**

**Comment F-64:** *“The EIR Must Disclose, Analyze, and Mitigate the Project’s Traffic Impacts. The Project involves vast excavation. Depending on final Project configuration, as many as 3,400 to 4,500 truck trips could be required to export all of the graded material, if the swell factor<sup>24</sup> is accounted for in the EIR. Waldbaum 2010 at 8. The truck traffic will have air quality impacts. St. Helena Road, which these trucks will be required to traverse, “is a narrow, very winding, rural mountain road. Large trucks have great difficulty in negotiating its tight, blind curves without crossing the double centerline, endangering oncoming vehicle traffic, bicyclists and pedestrians.” Waldbaum 2010 at 8. Furthermore, the pavement along St. Helena Road is in*

<sup>24</sup> The swell factor is the multiple by which excavated soil increases in volume compared to its original, compacted size.

*an extremely deteriorated condition with abundant potholes and cracked and buckled asphalt. Budget constraints have rendered road maintenance infrequent at best. The EIR must disclose, analyze, and mitigate the consequences of unleashing the cavalcade of trucks upon an already unsafe and highly deteriorated road.”*

**Response to Comment F-64:** The commenter indicates the truck trips for excavation of soil should include a soil swell factor. Please see response to Comment E-58 and Errata in this Response to Comments Document for consideration of a soil swell factor in estimation of construction truck trips.

The commenter asserts the Project would have air quality impacts. All potential air quality impacts associated with excavation and transport of soil were addressed in the Air Quality sub-section of IV.A, Summary of the Initial Study in the Draft EIR, and revised in this Response to Comments Document (see Errata), and determined to be less than significant. Please also note that as a condition of approval, the County would require dust control measures be included as part of the Project to ensure effects of generation of dust during construction to ensure these effects would remain less than significant.

The commenter asserts that Project trucks on St. Helena Road would endanger oncoming vehicular traffic, bicyclists and pedestrians. Potential impacts associated with Project construction truck traffic on traffic flow and safety were addressed in the Transportation and Traffic sub-section of IV.A, Summary of the Initial Study in the Draft EIR, and revised in this Response to Comments Document (see Errata), and determined to be less than significant. Please note that as a condition of approval, the County would require transportation of excavation materials and construction equipment and supplies shall occur during off-peak traffic hours. See also responses to Comment E-59 and E-60.

The commenter asserts that the Draft EIR must address the Project effect of construction truck traffic on roadwear. Potential impacts associated with Project construction truck traffic on roadwear were addressed in the Transportation and Traffic sub-section of IV.A, Summary of the Initial Study in the Draft EIR, and determined to be less than significant. The commenter is also referred to response to Comment E-59.

## **Letter H. Laura Waldbaum**

**Comment H-14:** *“Finally, the project could have traffic impacts and further damage already degraded St. Helena Road, but the DEIR dismisses these concerns. The project will send up to one construction truck every six minutes onto St. Helena Road for nineteen months. Yet the DEIR concludes that this impact is “limited in duration” and need not be analyzed. Nineteen months of construction is not “limited” under any reasonable definition of the term.”*

**Response to Comment H-14:** The commenter asserts the Project could have substantial traffic impacts and further damage St. Helena Road.

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The commenter indicates the Project would send one construction truck every six minutes onto St. Helena Road for nineteen months. The commenter inaccurately characterizes the frequency of Project truck trips over the duration of the construction period. The commenter is also referred to response to Comment E-58, which addresses revisions made to both peak daily Project truck trips and total Project truck trips over the 18-month construction duration, as a result of comments made on the Draft EIR, and as staff-initiated changes. These revisions would not change any conclusions previously reached in the Draft EIR regarding short-term construction impact effects on traffic flow, safety, and roadwear, which would continue to remain less than significant.

The commenter indicates that nineteen months of construction is not limited. Construction would be finite in duration and therefore considered limited, as opposed to long-term operations of the life of Project.

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## CHAPTER V

# Errata (Changes to Transportation and Traffic Portion of Draft EIR only)

The following corrections and changes are made to the Draft EIR and incorporated as part of the Final EIR. Revised or new language is underlined. Deleted language is indicated by ~~striketrough~~ text. Preceding each revision **[in bolded brackets]** is a reference to the revision being the result of a staff-initiated change, or a revision that is in response to a comment received, in which the comment letter and numbers are identified in the bracket.

**[E-58]** The Draft EIR, Summary of the Initial Study section, page IV.A-3, third full paragraph, second sentence is revised as follows:

“Construction activities that would generate off-site traffic would include the daily arrival and departure of construction workers, delivery of construction equipment and materials, and the off-site hauling of excess soil and construction debris.”

**[E-58]** The Draft EIR, Summary of the Initial Study section, page IV.A-3, last paragraph, the following sentence is added to the end:

“In addition to the truck trips presented in Table IV.A-1, the delivery of construction equipment to/from the site would result in approximately 38 truck round trips over the duration of construction schedule.”

**[E-58]** The Draft EIR, Summary of the Initial Study section, Table IV.A-1 on page IV.A-4 is revised as shown on the following page.

**[E-58, and Staff-Initiated Change]** The Draft EIR, Summary of the Initial Study section, page IV.A-5, first paragraph is revised as follows:

“~~As shown in Table IV.A-1, o~~Over the span of the construction period, and using an average truck capacity of 10 cubic yards, there would be a total of approximately 2,2501,750 truck round trips [~~339275~~ truck round trips associated with importing material, and 1,8721,475 truck round trips associated with exporting material (see Table IV.A-1), and 38 truck round trips associated with delivery of construction equipment~~]).~~ The majority of the truck trips would occur during discrete phases within the construction period. The peak daily hauling would occur during the two initial construction phases (grading of Wappo Road, and grading and excavation of the apron and tank pad areas), when as many as 2440 daily truck round trips could be expected over a period of approximately seven weeks. The proposed wine cave excavation phase would

**TABLE IV.A-1  
CONSTRUCTION TRAFFIC ESTIMATES**

Construction Component	Material Import			Material Export			Total Estimated Truck Round Trips for Material Transport <sup>a</sup>	
	Material Type	Quantity (cubic yards or as shown) <sup>b</sup>	Duration (Work Days)	Material Type	Quantity (cubic yards or as shown) <sup>b</sup>	Duration (Work Days)	Import	Export
Establish subgrade on Wappo Road Prepare road surface for construction traffic Install water quality features	Gravel Surfacing	<u>281225</u> CY	15	Excess road cut	<u>3,8613,089</u> CY	22	<u>2823</u>	<u>386309</u>
Rough-grade and excavate apron area Excavate soil nail wall at cave entrance Excavate for pad for water tanks for fire protection and potable water	--	--	--	Excess apron/ tank pad cut	<u>4,7913,833</u> CY	15	0	<u>479383</u>
Soil nail wall installation at cave entrance and fire/potable water tank pad	Wall construction materials and concrete	<u>1,3014,044</u> CY	22	--	--	--	<u>130404</u>	0
Construct rain harvest tank pad (grading and retaining walls)	Wall construction materials and pad materials	7 truck loads		Excess pad cut	<u>173438</u> CY	15	7	<u>1744</u>
Winery support building stem wall grading and construction	Wall construction materials	2 truck loads		--	--	--	2	0
Wine cave excavation, interior finish work and utility installation	Utility delivery and cave finish concrete	20 truck loads		Cave spoils	<u>9,5507,640</u> CY	220	20	<u>955764</u>
Site utility trenching and pipe installation	Utility delivery and controlled density fill import	<u>203</u> truck loads		--	<u>296</u>	--	<u>203</u>	<u>300</u>
Leachfield installation	Tank and system component delivery	5 truck loads		--	--	--	5	0
Water tank installation (rain harvest, process wastewater, fire/potable water) Process wastewater plant installation	Tank and PW Plant component delivery	8 truck loads		--	--	--	8	0
Winery production and support building construction	Material delivery	25 truck loads		Construction waste	5 bins	entire Project	25	5
Final site grading and paving	Paving material delivery	5 truck loads		--	--	--	5	<u>05</u>
Wappo Road surface improvements	Gravel and asphalt concrete	<u>684547</u> CY	20	--	--	--	<u>6855</u>	0
Landscaping/irrigation system installation	Plant and material delivery	20 truck loads		--	--	--	20	0

## NOTE:

<sup>a</sup> Average capacity of haul trucks would be 10 cubic yards.

<sup>b</sup> As a conservative approach, a swell factor of 25% percent was accounted for all excavated soil quantities, and 25% of soil from trench work assumed unsuitable for backfill.

SOURCE: Atterbury and Associates, 2012

occur over a longer period of time, but the daily rate of excavation would be lower, resulting in an average of less than five truck round trips per day during this phase.”

**[E-58, and Staff-Initiated Change]** The Draft EIR, Summary of the Initial Study section, page IV.A-6, last full paragraph is revised as follows:

“Project construction traffic would be temporary, intermittent, and dispersed throughout the day. The maximum Project construction truck trips (up to ~~4880~~ one-way trips per day over a seven week period) translates to one truck approximately every ~~ten six~~ minutes traveling to or from the Project site over each 8-hour work day. Comparatively fewer daily truck trips would be generated during subsequent construction phases, resulting in lower truck frequencies during those phases...”

**[E-58, and Staff-Initiated Change]** IV.A-14, last full paragraph is revised as follows:

“During the construction phase with the peak off-site truck traffic, as many as ~~2440~~ daily truck round trips would be expected over a period of approximately seven weeks. This peak construction phase would result in approximately ~~sixteen~~ one-way truck trips per hour. Using the Traffic Noise Model of the Federal Highway Administration, these peak daily truck trips would contribute ~~53.554~~ dBA to the hourly average noise levels at a distance of 50 feet from the roadway center. Addition of these truck trips to existing traffic on St. Helena Road would results in roadside noise levels of ~~55.156.7~~ dBA. This resultant noise level would be less than the 60 and 65 dBA noise contours for transportation sources used in the *Sonoma County General Plan 2020* for evaluating roadway noise and consequently would be considered a less than significant temporary or periodic noise increase. In other Project construction phases, noise levels increases from Project construction truck traffic would be even less, and similarly less than significant.”

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## **APPENDIX B**

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Memorandums from Bob Cabral submitted on behalf of Project Sponsor

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## **APPENDIX B.1**

Memorandum from Bob Cabral submitted on behalf of Project Sponsor to Sonoma County PRMD, October 15, 2015

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## Introduction.

My name is Bob Cabral. I am a professional winemaker and wine consultant in Sonoma County. I understand the Cornell winery project has a capacity of 150 tons of grapes per year, but its vineyards are projected to produce up to 100 tons of grapes. I was retained to address the question of whether that excess capacity would be likely to cause the planting of additional vineyards on Cornell's property.

For these purposes, in September 2015 I visited and inspected the property (which includes all parcels on Wappo Rd, which is now known as Spring Mountain Summit Trail); I met with the applicant's full time winemaker and discussed the project with other team members to gain an understanding of the owner's goals and plans; I have reviewed Sonoma County's VESCO ordinance and the tree removal provisions associated therewith; and I have read portions of the EIR relevant to my work herein. My opinions rely on this investigation, as well as my experience in the industry as set forth below.

## Professional Background.

I received a Bachelor's of Science degree in winemaking from Fresno State, with a minor in biochemistry. During my professional career I have worked at a wide range of wineries, from among the largest in California (Bronco Wine Company- with current production I have been informed is in the range of 20,000,000 cases annually) to the very boutique (5,000 to 10,000 cases annually), and wineries in between. My professional career began in 1981 at Bronco where I remained until 1984. I then worked for four years as assistant winemaker at a company called Vie-De, which was a 13 million gallon (approximately 5.5 million cases) wine production facility in the central valley.

In 1986, I became an assistant winemaker at DeLoach winery, and in 1990 I became the associate winemaker, which position I held until I left in 1992. From there, I worked for the Kunde Winery as their custom crush winemaker until 1994. At that time, I became the winemaker for Alderbrook Winery, where I remained until 1997, when I became the winemaker at Hartford Court Winery.

In 1998, I accepted the position of Winemaker at Williams-Selyem. I became the General Manager and part owner at Williams-Selyem in 1999, and remained so until this year. I am presently a wine industry consultant as well as a part owner of a winery.

In addition to winemaking, my career has involved a significant amount of vineyard work. I have extensive experience in vineyard development, farming and replanting vineyards; including working on projects which required tree removal and geotechnical investigations. I've also devoted a significant part of my career to developing, implementing and overseeing marketing and sales programs, and brand development strategies.

## The Cornell Vineyard.

The Cornell vineyard was completely established by 2004. There are approximately 20 acres planted to grapes as follows: (Cabernet Sauvignon: 17 acres, Merlot: 1 acre, Petit Verdot: 1 acre, Malbec: ½ acre, Cabernet Franc: ½ acre. The vineyard is Certified Organic and Certified fish friendly. When the vineyard was established, computer assisted programs were far less common. Presently, most engineers who

design vineyards use various programs for that purpose- which vary from engineer to engineer. It is unknown what particular technology, if any, was used in that process. Cornell uses computer-assisted technology to manage watering, but this has no impact on costs to establish the vineyard. Using the then-standard methods (notably soil analysis factored in by climate concerns among others), Cornell selected and planted those lands which he believed were conducive to planting grapes of the caliber Cornell was striving for.

Cornell subsequently purchased a number of contiguous parcels. These were not purchased for vineyard development purposes; they were purchased from neighbors who opposed a winery and did not want to share the road with a winery, and in one instance from a neighbor who opposed vineyards and refused to close vineyard gates. In the years which have passed since those purchases, Cornell has not undertaken planting any additional grapes, as it has not been part of his long-term plans.

#### The Cornell Team.

Cornell has a full time winemaker, a full time vineyard manager and crew (not outside labor) and a consulting winemaker and a sales and marketing team. Cornell does not own any other vineyards.

#### Use of the Vineyard Grapes.

Cornell does not sell fruit to other wineries- it is used entirely in Cornell's estate wine. While the EIR makes reference to "Truck Shipments of Grapes During Harvest Season" (section IV.A-6), it is incorrect to the extent that it implies grapes are sold to others, or "picked up" by "customers" (as in wineries). The word "customers" should be "delivery trucks" as all grapes Cornell grows are delivered by Cornell or an outside company and shipped via truck to the winery where Cornell holds a bond and makes its own wine.

The EIR is otherwise correct as to the number of trips and small loads of fruit which Cornell takes off site for processing, all of which would be avoided if the winery were constructed. It should be noted that when one owns vineyards and has a bonded winery, they can make many "passes" through the vineyard harvesting small amounts of only the most perfect fruit, whereas when one purchases fruit, there is less flexibility, and larger loads of imported fruit can be expected, hence the difference in projected tonnage. Trucking costs are relatively nominal; for the entire 50 tons that would be imported, it is a matter of a few thousand dollars at most. For the grapes which are currently exported, it is slightly more expensive due to a greater number of smaller loads.

#### The Winery.

Cornell is a bonded winery, and for almost a decade has made its own wine using its own winemaker and consulting winemaker via an alternating proprietorship (not custom crush). Grapes have come from Cornell's estate vineyard, and some fruit is purchased from other vineyards(see "Long-term Goals" below). The wines are sold exclusively to private clients in China. None of the wine produced by Cornell has been designated as estate bottled- and no plan is in place to do so if the Use Permit is granted.

### Vineyard Development Costs.

The Cornell vineyard was planted at a time when costs were dramatically lower than they are at present. At that time, ranges of \$35,000-\$45,000 per acre were typical for developing vineyards on mountain sites like Cornell's. For this type of site, the present costs to install a high quality vineyard of a caliber suitable for Cornell's goals can easily run over \$200,000 per acre.

I would expect that that number to be much higher on Cornell's property for a number of reasons. Chief among them is Sonoma County's VESCO ordinance, and notably the tree removal provisions of that ordinance. With the exception of a very small area on one parcel (that has other challenges which make it patently unsuitable for vineyard), just the tree density and topography of Cornell's land strongly suggest the conclusion that almost any new vineyard would have to comply with the tree removal ordinance.

That ordinance requires among other things that in addition to the usual array of professionals, an applicant must have a site specific, full geo technical evaluation performed in order to confirm site stability. This typically involves core borings, and if need be major slope stability improvements. In my own experience ( including a vineyard development which required such work for other reasons) such an investigation is extremely costly, and for small developments is disproportionately expensive; and from viewing the property I saw no areas which would be, on their face, suitable for large developments (this is well beyond the basic questions of soil types and profiles and fundamental drainage issues associated with non-level 2/tree removal vineyard developments).

A full geo-technical investigation has the potential to disqualify many steeper sites in mountain locations for vineyards. This can be the result of learning that subsurface conditions are such that they require stabilization that can be extraordinarily expensive- such as being over an ancient landslide, which I understand was a major issue raised for the original winery location. This factor alone makes "generalized" investigations impractical- unless one has a reasonable level of confidence as to potential outcomes, the cost alone of such an investigation can be prohibitive; and certainly not something reasonable to do unless one can identify specific sites that are promising, and even then being prepared to find that the site is infeasible, or that the economics just don't "pencil out".

In addition, the applicant has to prove they meet the criteria of the Universal Soil Loss Equation (or a modified version of that equation), which, for steeper hillsides on mountain sites, with complicated drainage, can be an extraordinarily expensive standard to design, and even more expensive to meet. For a site like Cornell's, complying with the tree removal ordinance could easily run costs to well in excess of \$350,000 per planted acre for fruit of the caliber that Cornell is striving for.

In my opinion, these type of costs simply make vineyard development on Cornell's lands economically unfeasible- it is extraordinarily difficult to capture that type of investment; particularly given the availability of world-class Sonoma County grapes (see "Long Term Goals" below). This is even more the case in Sonoma County where bottle prices, even for high-end Cabernet, don't approach the ranges of Napa cabernets. Apropos to this point, it is my understanding there are very few applications for vineyard developments on level 2 sites which require compliance with the tree removal ordinance since it was passed, in large part because of the exorbitant costs associated therewith.

An alternative is to go through CEQA review, which is an even more expensive process, and if the saga of this winery application is any indication, that would be simply economically untenable.

I further understand that there is also a challenge to VESCO presently pending before the California Court of Appeals, by which the appellants are seeking to force CEQA review of vineyard developments. If successful, this will make the already exorbitant costs of complying with the tree removal ordinance skyrocket even higher.

#### Production History.

Vineyard production can vary widely by site, vintage, variety and clone and farming practices (and myriad other factors). Cornell keeps its vineyard production and financial information confidential; however ranges up to 5 tons per acre can be achieved depending on all applicable factors.

#### Other areas suitable for vineyards on Cornell's property.

Cornell only owns the lands already identified in the EIR- he has neither bought nor sold any other properties in Sonoma or Napa since the time the EIR was certified. While someone with experience in vineyard development can certainly look at some particular pieces of property and rather easily rule them out as suitable sites for vineyards based on some fairly obviously prohibitive factors (e.g., excessive slope or topography, presence of biotic features, wetlands, waters, trees, etc.), determining whether potentially suitable lands not eliminated from consideration by such factors are actually suitable for growing vineyards (or vineyards of suitable quality) requires a considerably more comprehensive investigation and study.

For example, one can easily see at Cornell there are huge sections which are simply too steep to be planted; what lands might be within the "permissible" slope steepness have many other challenges. Even if there were lands worth investigating, without undertaking a comprehensive study (including soil analysis, drainage and engineering issues, sun exposure and many other issues), it is speculative to try to determine if a piece of land is actually suitable for vineyards. This is the difference between what might be possible in the abstract, versus what is feasible in light of the actual conditions disclosed by a full investigation, and balanced against the economic impacts and the winery's plans. Even if soil is suitable for vineyard, the incredibly high costs associated with development in a site like Cornell's leaves me of the opinion there is little upside for him to plant more vineyards on those lands.

This is highlighted by how wine quality is impacted in a significant way by the soil where the grapes are grown. Soil is the product of weathering of the earth's crust, and that is not a "straight line", and even within a specific place, not all soil is "created equal". It is why not all vineyard sites are equal, and why even sites a few steps from each other can differ greatly, and why not even all places within a single vineyard can produce wines of a similar caliber. It is truly a site-specific analysis which must be done- and simply because there are already vineyards "there", doesn't mean they are suitable or desirable "here" for a specific wine program, even if on the same parcel, or even if adjacent to planted lands.

Cornell did identify years ago that a small piece on 100 Wappo Rd might have the potential for 4 or so acres of vineyard. However, Cornell did not think it suitable for the quality of fruit he wants to grow, and therefore has never made any further inquiries or efforts to develop it. Further, it has since been determined that the proximity of a Class 2 stream, Mark West Creek and a biotics resource overlay all make development there infeasible regardless of any other factor.

No comprehensive analysis has been undertaken to determine if vines can be planted elsewhere- Cornell has had no plans to do so. However, the exorbitant costs associated with such development as described above make it an unattractive proposition even if it were discovered there were suitable areas to plant.

### Brand Building.

Through my experience, I am very familiar with the business models of wineries in California- and especially Sonoma and Napa counties. Apropos here, I know how wineries build their brands, structure their product profiles and portfolios, as well as how wineries build wine programs, source fruit and plant vineyards, and their reasons for doing so. In my opinion, the mere fact that a winery has more production capacity than its vineyards produce, does not mean it can be inferred that a winery will plant more vineyards to utilize that capacity. To the contrary, when all the factors around planting vineyards discussed above and developing wine brands are concerned, there are many better reasons for a winery to obtain fruit from other sources than to develop more vineyards themselves.

Moreover, in my experience it is very rare in California for a winery with production capacity that is larger than a few hundred cases to only produce wine from a single estate location where the winery is located. Most wineries work with fruit from multiple sources, not just from one single source. Even those wineries that emphasize an "estate" wine program (meaning all wines come from vineyards that are owned or controlled by the winery), typically have "estate" vineyards they own in other places apart from whatever vineyards might be on the actual winery site. Cornell does not have such holdings.

This is so for a number of reasons; from a winemaking perspective it provides opportunities to blend wines from various sites into a single wine (to make a more layered or complex wine). From a winery sales and marketing perspective, the reasoning is as simple as giving a consumer a choice- people like to be able to choose among wines.

Further, wineries often want to offer wines from grapes varieties which wouldn't or couldn't be grown in the same place. A classic example of this is a warmer site where Bordeaux varieties grow well, but Chardonnay not as well. So, rather than plant grape varieties which wouldn't do well there, or plant a variety which would do well there but which the winery doesn't need, a winery typically would source fruit from other vineyards (whether its own vineyard or another vineyard owner's ) to develop another product to offer to consumers.

In addition, being able to offer the same variety of grape but from different places and in different bottlings allows a winery to really explain the impact of "place" on wines, which is often used to demonstrate the very special and unique caliber of the wines grown on the estate property, particularly if the on-site fruit has a sense of "scarcity".

Finally, unlike broadly projecting potential agricultural uses for undeveloped land in general terms (such as if it were sold), before planting vineyards a winery must also decide whether, even if grapes could be grown there, the winery would want or need those grapes. Aside from quality concerns (such as the area Cornell located but rejected as it would not grow fruit of the caliber Cornell desires), one can have too much of a particular grape variety for a winery's particular business plan as generally consumers are drawn to scarcity rather than excess.

The amount of wine currently projected to be produced from the on-site vineyard, is, in my opinion, about as much of a single wine from a single location that a winery of this size and type would want, thus militating against planting more vineyards on Cornell's contiguous properties.

Finally, given the extraordinary costs which can be associated with vineyard development (particularly with tree removal on mountainous sites under Sonoma County's VESCO ordinance), the economics of those costs versus potential sales costs need to be evaluated, and purchasing fruit elsewhere is a far more economically sensible approach.

### Cornell's Long-Term Goals

Cornell's plans have always included sourcing some "outside" fruit for various purposes- including blending and developing a diverse portfolio of wines. In the past several vintages, Cornell has purchased fruit from other vineyards as a step in this direction- with the long term goal of someday having a roughly 2/3 production from the estate vineyard and 1/3 from other places. Cornell has no plans to sell grapes to other wineries. Functionally, this leaves no room for additional estate vineyards to be planted.

### Other Challenges to Planting More Vineyards.

When Cornell initially applied for the winery it had a footprint of some 13,000 square feet. For unspecified reasons, it was determined by staff that this was too large for 10,000 cases, and Cornell agreed to reduce the footprint. This limits how much space is available for barrel aging, and at that time Cornell envisioned 24 months to bottling.

This has taken on new significance as Cornell intends to begin experimenting with a 3 year barrel aging program (done for tannin management by a number of the finest wineries in California). This means that despite having less space available, Cornell will have to store an additional vintage of wine on site- which will come at the expense of some fermentation space. This too, is a disincentive for Cornell to undertake the costs to plant more vineyards, as he is already going to be challenged for production space between his existing production, longer barrel aging, and his business goals referenced above.

### Conclusions.

In my opinion there is no significant likelihood that Cornell obtaining a Use Permit with the small capacity in excess of that produced by its estate vineyard will spur more vineyard development on Cornell's lands. Simply because one has undeveloped land or has a winery with capacity for more grapes, doesn't mean it is necessarily a good idea to plant grapes there, and quite often the opposite is true, particularly when costs and benefits are balanced against each other.

The primary reason for my opinion in this instance is largely economic- the costs associated with further vineyard development on Cornell's land is grossly disproportionate to the potential return. Because of the time to do a full investigation, undergo reviews and gain approvals, it would likely be some eight (8) years before one could even have quality fruit- and one must carry all those development and farming costs during that time, and then try to begin recovering them.

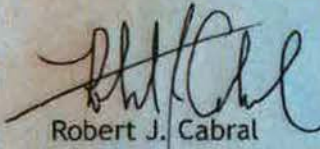
Further, Cornell can buy the highest quality fruit in Sonoma County for far less than it can develop vineyards on its property. Purchased fruit also offers myriad other opportunities for brand building, as

set forth above, and at far more attractive prices. It is also entirely consistent with Cornell's plans to split production between the estate grown and imported fruit, and in my opinion the most likely scenario for filling capacity, which is underscored by the fact Cornell is already doing so.

Aside from the economic challenges, the fundamental question of whether any specific potential site for vineyards is suitable for the quality Cornell seeks would have to first be addressed, which, for the reasons identified above under "Vineyard Development Costs" is not reasonable or practical for this site. Even if Cornell owned lands which were suitable for wine grapes, planting grapes simply because you have capacity to fill is often a very poor business strategy without consideration of other factors as discussed above. Not planting more grapes is consistent with Cornell's plan for 2/3 of the wine coming from his estate and 1/3 other places. Planting more vineyards is inconsistent with that plan, and further complicated by the limited storage following the forced reduction in winery footprint. I also think Cornell is at a point where planting more grapes on his property for this very small winery and brand won't further the "limited" concept of the wines grown on his property- and in this regard, consumers view "limited" as more desirable than "abundant".

Finally, in my opinion the economic analysis of development costs for vineyards on lands such as Cornell's, the waiting time for the vineyard to come into production, when weighed against the cost of and benefits of purchasing world-class Sonoma County fruit there is no economic upside or business development advantage to planting more vineyards on Cornell's property, which furthers my opinion that additional vineyards are not likely to result if the Use Permit is granted.

For all these reasons, it is my opinion it is not likely or even reasonably foreseeable that granting Cornell a Use Permit for a 10,000 case winery would induce the planting of new vineyards on Cornell's other lands.



Robert J. Cabral

## **APPENDIX B.2**

Supplemental Memorandum from Bob Cabral submitted on behalf of Project Sponsor to Sonoma County PRMD, February 8, 2016



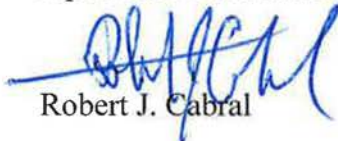
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I have reviewed the December 12, 2015 memo authored by wine industry experts Julian Alston and James Lapsley. That memo's first part (pages 1 to 3) reviews information in my prior letter; the second part (pages 3 to 5) expresses the authors' opinion that establishing a wine processing facility on the Cornell Farms property will not induce further vineyard development. I have no comments on the authors' opinion, but will briefly respond to several unrelated questions raised in the memo's first part, relating to factual information provided in my prior letter.

Cornell has federal label approval for its wine. Until Cornell's bond/winemaking operation was moved to Napa County, the wines had to be bottled at a different facility than where they were initially produced, as that facility did not offer bottling services. So, label approval was sought and obtained by the bonded winery where the wines were bottled.

As to the question about the disposition of the grapes from vintages 2007-2008, they were processed using Cornell's winemaker (not under a formal AP agreement), and those wines were sold in China. These wines were bottled as "shiners" (unlabeled) as there were questions about evolving labeling requirements for export to China. After label approval was obtained in 2009, the 2007 wines were labeled, and a copy of the 2007 label approval is attached.

As to reporting on bulk wine inventory, Cornell changed its compliance specialist after 2012, and Cornell's current compliance specialist is reviewing the records, however, it is clear there was a report submitted in 2013, and bulk wines were reported in 2013 and 2014.



Robert J. Cabral

TTB 09286-000-000099

DEPARTMENT OF THE TREASURY  
ALCOHOL AND TOBACCO TAX AND TRADE BUREAU  
APPLICATION FOR AND CERTIFICATION/EXEMPTION OF  
LABEL/BOTTLE APPROVAL  
(See Instructions and Paperwork Reduction Act Notice Below)

1. REP. ID. NO. (If any) 1008		CT 88	OR 01
2. PLANT REGISTRY/BASIC PERMIT/BREWER'S NO. (Required) BW-CA-5547		3. SOURCE OF PRODUCT (Required) <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Imported	
4. SERIAL NUMBER (Required) YEAR: 0 9 - 0 0 3 6		5. TYPE OF PRODUCT (Required) <input checked="" type="checkbox"/> WINE <input type="checkbox"/> DISTILLED SPIRITS <input type="checkbox"/> MALT BEVERAGES	
6. BRAND NAME (Required) Cornell		7. FANCIFUL NAME (If any)	
9. EMAIL ADDRESS tafst@sonic.net		10. FORMULA/SOP NO. (If any)	
12. NET CONTENTS 750ml		13. ALCOHOL CONTENT 14.2%	
15. WINE VINTAGE DATE (If on label) 2007		16. PHONE NUMBER (707) 823-2049	
17. FAX NUMBER (707) 823-8622		18. TYPE OF APPLICATION (Check applicable box(es)) a. <input checked="" type="checkbox"/> CERTIFICATE OF LABEL APPROVAL b. <input type="checkbox"/> CERTIFICATE OF EXEMPTION FROM LABEL APPROVAL "For sale in _____ only" (Fill in State abbreviation) c. <input type="checkbox"/> DISTINCTIVE LIQUOR BOTTLE APPROVAL TOTAL BOTTLE CAPACITY BEFORE CLOSURE (Fill in amount) d. <input type="checkbox"/> RESUBMISSION AFTER REJECTION TTB ID _____	
8. NAME AND ADDRESS OF APPLICANT AS SHOWN ON PLANT REGISTRY, BASIC PERMIT, OR BREWER'S NOTICE. INCLUDE APPROVED DBA OR TRADENAME IF USED ON THE LABEL (Required) TAFT STREET INC dba Cornell Vineyards 2030 Barlow Lane Sebastopol, CA 95472			
8a. MAILING ADDRESS, IF DIFFERENT			
11. LAB. NO. & DATE/PRE-IMPORT NO. & DATE (If any)			
19. SHOW ANY WORDING (a) APPEARING ON MATERIALS FIRMLY AFFIXED TO THE CONTAINER (e.g., caps, cellophane, corks, etc.) OTHER THAN THE LABELS AFFIXED BELOW, OR (b) BLOWN, BRANDED OR EMBOSSED ON THE CONTAINER (e.g., net contents, etc.). THIS WORDING MUST BE NOTED HERE EVEN IF IT DUPLICATES PORTIONS OF THE LABELS AFFIXED BELOW. ALSO, PROVIDE TRANSLATIONS OF FOREIGN LANGUAGE TEXT APPEARING ON LABELS.			

PART II - APPLICANT'S CERTIFICATION

Under the penalties of perjury, I declare: that all statements appearing on this application are true and correct to the best of my knowledge and belief; and, that the representations on the labels attached to this form, including supplemental documents, truly and correctly represent the content of the containers to which these labels will be applied. I also certify that I have read, understood and complied with the conditions and instructions which are attached to an original TTB F 5100.31, Certificate/Exemption of Label/Bottle Approval.

20. DATE OF APPLICATION 10/07/09	21. SIGNATURE OF APPLICANT OR AUTHORIZED AGENT <i>Michael F Martini</i>	22. PRINT NAME OF APPLICANT OR AUTHORIZED AGENT Michael F Martini, VP/Sec
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PART III - TTB CERTIFICATE

This certificate is issued subject to applicable laws, regulations and conditions as set forth in the instructions portion of this form.

23. DATE ISSUED OCT 19 2009	24. AUTHORIZED SIGNATURE, ALCOHOL AND TOBACCO TAX AND TRADE BUREAU <i>Neel C. Buchhardt</i>
--------------------------------	--

FOR TTB USE ONLY

QUALIFICATIONS

EXPIRATION DATE (If any)



*Cornell*  
2007

ESTATE GROWN

SONOMA SUMMIT VINEYARD

CABERNET SAUVIGNON  
SONOMA COUNTY

ALC. 14.2% BY VOL



Back Label

FRONT LABEL

## **APPENDIX C**

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Memorandum from Dr. Julian M. Alston and  
Dr. James T. Lapsley submitted to Sonoma  
County PRMD, December 12, 2015

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## Opinion on the Question: Will the approval of the Cornell winery encourage vineyard expansion?

Julian M. Alston and James T. Lapsley

December 12, 2015

**Introduction:** We agreed (1) to write a short review of the Cabral letter (undated) that describes the Cornell vineyard and winery project and (2) to provide a short opinion as to whether the approval of the proposed winery would encourage vineyard development in the area near the proposed winery.

**Who we are:** Julian Alston is a Distinguished Professor in the Department of Agricultural and Resource Economics at the University of California, Davis (<http://are.ucdavis.edu/en/people/faculty/julian-alston/>) and the Director of the Center for Wine Economics at the Robert Mondavi Institute for Wine and Food Science (<http://vinecon.ucdavis.edu/>). Jim Lapsley is an Adjunct Professor in the Department of Viticulture and Enology, where he taught wine business and management for more than 20 years, and is a researcher on wine and grape economics at the University of California Agricultural Issues Center (<http://aic.ucdavis.edu/>). Our CVs are provided with this memorandum. Together we have co-authored two papers on wine economics in the *Journal of Wine Economics* (see Alston et al., 2011 and Alston et al., 2016a) and we are engaged in several ongoing projects related to California wine production and markets.<sup>1</sup>

**Our Opinions.** First, we find the Cabral letter to be correct in its general discussion of wine economics, brand building, and vineyard development costs, although we cannot vouch for the veracity of specific statements about the Cornell operation. Second, it is our opinion that the establishment of a new wine-making facility will NOT encourage the development of new vineyards in the area and is thus NOT growth encouraging. We discuss both of these opinions in detail below.

**Cabral Letter:** On October 19, 2015 we received from Paul Mitchell two responses written by Cornell winery consultant, Bob Cabral to our request for information on grape sales and prices. The first response directed us to the second response, the “Cabral Letter,” a 6 ½ page single-spaced description and history of the Cornell winery project. We now review that document.

Cabral describes himself accurately in the letter. He has produced wine in Sonoma County since 1986, working for several different wineries. From 1998 until 2014 he was the winemaker (and from 1999 on part-owner) for Williams-Selyem, a famous high-end producer of Pinot noir. Cabral has significant experience in wine and grape production in Sonoma County, is well known, and is well respected in the California wine industry.

We generally agree with Cabral’s assessment of costs of hillside vineyard development (between \$200,000 and \$350,000 per acre, depending upon site and permit requirements) and that such high costs have rendered most new vineyard development uneconomic. In the past decade, the volume of

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<sup>1</sup> Alston, J.M., K.B. Fuller, J.T. Lapsley, and G. Soleas. “Too Much of a Good Thing? Causes and Consequences of Increases in Sugar Content of California Wine Grapes.” *Journal of Wine Economics* 6(2)(2011): 135–159.

Alston, J.M., K. Fuller, J.T. Lapsley, G. Soleas, and K. Tumber. “Splendide Mendax: False Label Claims about the High and Rising Alcohol Content of Wine.” *Journal of Wine Economics* 11(2016a): In Press.

U.S. consumption of table wine increased by 26% (Wine Institute “Statistics”).<sup>2</sup> Meanwhile Sonoma vineyard acreage expanded by only 2.8% (CDFA Wine Grape Acreage Reports, 2005 and 2014); the volume and value of production increased somewhat more than the area of vineyards in the County.<sup>3</sup> Most Sonoma land that is well-suited for economical development as vineyards has already been planted.

Cabral describes the Cornell Vineyard as covering 20 acres planted to the five classic Bordeaux red varieties, with Cabernet Sauvignon predominant (17 acres). This seems to us to represent the highest and best use of the area, which is close to the Napa county line on Spring Mountain, where Cabernet-based blends predominate. The area is well-suited for warmer-weather Bordeaux varieties but would probably be too warm to grow high-quality Pinot noir or Chardonnay. Thus, should the Cornell winery wish to produce a white wine or a Pinot noir, it would most likely have to buy grapes from other, cooler, growing areas. The request for production capacity in the winery beyond what would be required to process the grapes currently grown by Cornell on site seems reasonable to us from a business perspective in that it would allow the winery the option of producing additional products using grapes sourced elsewhere. Cabral reports an average of 100 tons from the vineyard, or 5 tons per acre. This figure is on the high end of the range for production from a mountain vineyard, but certainly is consonant with high-quality winegrape production if sufficient water is available.

Not having examined the vineyards ourselves, and not being viticulturists, we accept at face-value Cabral’s assertion in the section “Vineyard Development Costs” that most of the property owned by Cornell is not suitable for vineyard development because of steepness, the presence of oak trees, land orientation, or soils. His estimates of development costs for the establishment of a state-of-the-art vineyard on the existing Cornell property are on the high end of the range for development costs, but certainly are not unreasonable.

For us, the most significant information in the Cabral letter is the fact that Cornell Farms already has a bonded winery and has operated in an “alternating proprietorship” for “almost a decade.” Alternating Proprietorships (“AP”s) allow shared use of physical space by multiple bonded wineries. In 2008, in an Industry Circular, the Federal Tax and Trade Bureau described the system in these words: *“An alternating proprietor arrangement consists of two or more persons or entities taking turns using the same space and equipment to produce wine. In almost all situations, an existing proprietor-owner of a bonded wine premises agrees to rent space and equipment to a new proprietor. Such an agreement*

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<sup>2</sup> 2005 table wine consumed, 609 million gallons; 2014 table wine consumed, 769 million gallons; difference = 160 million gallons. Percent increase  $100 \times (160/609)\% = 26.2\%$

<sup>3</sup> 2014 Sonoma grape acreage from *California Grape Acreage Report 2014* found at [http://www.nass.usda.gov/Statistics\\_by\\_State/California/Publications/Grape\\_Acreage/201504gabt10.pdf](http://www.nass.usda.gov/Statistics_by_State/California/Publications/Grape_Acreage/201504gabt10.pdf) Total bearing and non-bearing as reported page 46, table 10 was **59,974 acres**.

2005 Sonoma grape acreage from *California Grape Acreage Report 2005* found at [http://www.nass.usda.gov/Statistics\\_by\\_State/California/Publications/Grape\\_Acreage/200504gabt00.pdf](http://www.nass.usda.gov/Statistics_by_State/California/Publications/Grape_Acreage/200504gabt00.pdf) Total bearing and non-bearing acres as reported page 36 was **58,298 acres**.

Acreage difference:  $59,974 - 58,298 = 1,676$  acres. Percentage increase =  $100 \times (1,676/58,298)\% = 2.87\%$ .

The *County Crop Report* put out by the County Agricultural Commissioner (available here [http://www.sonoma-county.org/agcomm/crop\\_report.htm](http://www.sonoma-county.org/agcomm/crop_report.htm)) has slightly different figures for total Sonoma winegrape acreage, which show a comparatively smaller percentage increase than the State estimate, from 62,146.0 acres to 62,650.6 acres over the decade 2005–2014 (0.81%).

*allows existing wineries to use excess capacity and gives new entrants to the wine business an opportunity to begin on a small scale without investing in equipment.”* (TTB industry Circular 2008-4, August 18, 2008). We return to this point later in our analysis.

A check on the Cornell Farms’ State of California Winegrower’s license 539923 shows that it is currently operating in an AP located at 335 West Lane in Angwin in Napa County, and has done so since February 20, 2014. Prior to that, Cornell Farms LLC had held Winegrower license 483358 from April 15, 2010 until February of 2014, at 51 Front St. in Healdsburg, CA. However, the Federal Basic permit, provided to us by Cornell Farms, indicates a permit start date of October, 2009, and we thus conclude that Cornell Farms began active production as an alternating proprietorship in 2009—which would mean seven harvests. Presuming the vineyard was completed in 2004, as stated by Cabral in his letter, we would expect the first commercial harvest to have been three years later, in 2007. It is not clear to us what was done with the grapes produced between 2007 and 2009.

The other piece of significant information is that Cornell Farms sells wine exclusively to private clients in China and that none of the wines has been designated as estate-bottled or sold in the United States. All California wineries are required to make a report to the California State Board of Equalization (BOE), which collects wine excise taxes. We reviewed BOE reports and found tax return reports for Cornell Farms for 2011, 2012, and 2014. These reports indicated that no wine had been sold in California and that no tax was paid. This is consistent with Cabral’s assertion that all wines produced by Cornell Farms are exported. What is surprising is that no bulk inventory is stated in the reports. This may simply be due to inexperience on the part of whomever is charged with filing the annual report, but if wine is held in barrel for two years, there should be bulk inventory reported. We also checked the Federal Tax and Trade Bureau’s public records of label approval but could find no record of Cornell Farm labels being approved by the Federal TTB.

In summary, although more information would have helped in this review, we find that Cabral’s letter seems generally correct in its estimation of vineyard development costs, brand development, the wine business, and the likelihood of vineyard expansion in response to the proposed new winery development, as we discuss in detail next.

**Opinion:** It is our broad opinion that the establishment of a wine processing facility on the Cornell Farms property on Spring Mountain Summit Trail would NOT result in an increased demand for grapes from the area close to the proposed facility and thus would NOT result in increased vineyard development. We base this opinion on two points. First, historically in Sonoma County, there has been no correlation between the number of wineries in the County and vineyard acreage. Second, the question at hand is not the establishment of a winery (Cornell Farms already has a winery—but in a different location), but of a wine processing facility. In this instance, the location of a processing facility should not change the quantity of grapes required by Cornell Farms.

1. *Lack of relationship between number of wineries and grape acreage.* Although it may seem counterintuitive, there seems to be no relationship between the number of bonded wineries in Sonoma County and Sonoma County grape acreage. We consulted our database of winegrower license holders, which is current to July 2012 and is derived from the California Alcoholic Beverage Control. In 2002, Sonoma County had 126 distinct license holders (that is, not including duplicate licenses for retail sales). In that same year, according to the CDFA Grape Acreage Report, Sonoma County had 57,572 acres of winegrapes (bearing plus non-bearing acres). A decade later in 2012, the number of winegrower licenses in Sonoma County had



increased to 628 (almost 400%) but vineyard acreage had increased by only 1,156 acres (2%). It seems from these figures that there is no relationship between the numbers of wineries in Sonoma County and the demand for grapes. Demand for grapes is also reflected in grape prices. In 2002 the average price per ton of Sonoma County Cabernet Sauvignon was \$2,690, while a decade later, in 2012, the average price had declined to \$2,313 (Source, CDFA Grape Crush Reports, 2002 and 2012). Prices for winegrapes from premium regions like Sonoma (see Alston et al. 2016b) have improved somewhat since then and in 2014 the average price per ton of Sonoma County Cabernet Sauvignon was \$2,614 (though we should note that these are nominal prices and have not been adjusted for inflation).<sup>4</sup>

The point to be taken from both the acreage and price figures is that the demand for Sonoma County grapes in general, and Cabernet Sauvignon in particular, does not seem to have grown appreciably since 2000, despite an increase in the number of wineries. In 2014, approximately 255,000 tons of Sonoma County-grown grapes were processed in California. It does not seem to us that the creation of a new processing facility with a maximum production of approximately 150 tons in Sonoma County will have any impact on the demand for Sonoma County grapes.

2. *No increase in demand for Cornell Farm grapes from relocation of a processing facility.*

In point 1, we focused on the demand for Sonoma County grapes. The specific question we have been asked to address is whether the establishment of a wine-processing facility on Spring Mountain Summit Trail would result in an increased demand for grapes grown near the winery, and if such increased demand would result in the planting of new vineyards.

Increased demand could come from other wineries or from the Cornell Farms LLC. In the case of other wineries, it would seem that the approximately 30 wineries located in Napa County's Spring Mountain District AVA would be the logical candidates to purchase grapes from a vineyard fairly close to their own vineyards. But this has not occurred. The Sonoma area on Spring Mountain Summit Trail is in Sonoma county and thus not part of the Spring Mountain District AVA. Grapes grown on the Spring Mountain Summit Trail property are thus not substitutes for grapes grown within the Spring Mountain District AVA. According to Cabral, there has been no history of grape purchases from the Cornell Farms vineyard by other wineries. The establishment of a processing facility on Spring Mountain Summit Trail should not have any effect on the demand for grapes required by Spring Mountain District AVA wineries.

Would the establishment of a wine-processing facility on Spring Mountain Summit Trail increase the demand for grapes by Cornell Farms? We have no information on the profitability of Cornell Farms' wine sales to China, and thus we cannot calculate the likely returns from the establishment of new vineyards on the Cornell Farms property. However, we do make the point that, in the case of Cornell Farms and the application being considered, the establishment of a wine processing facility has nothing to do with the question of whether it would make economic sense to plant additional vineyards.

The proposed new winery would be located with the existing vineyard within the new Fountaingrove AVA, established in February 18, 2015. We have no sense that the establishment

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<sup>4</sup> Alston, J.M., K. Anderson, and O. Sambucci. "Drifting Towards Bordeaux: The Evolving Varietal Emphasis of U.S. Wine Regions." *Journal of Wine Economics* 10(2016b): In Press.

of this new winery would create additional demand for grapes from that new AVA by wineries either within that AVA or in neighboring AVAs or by Cornell Farms.

Cornell Farms has had an AP license for the past seven years, first in Healdsburg and currently in Angwin. If it made economic sense for Cornell Farms to expand its vineyards in order to produce more wine for sale to China, this probably would have already occurred. The economic question of whether to expand vineyards has everything to do with the profitability of sales and little or nothing to do with the location of a processing site. The only thing that the on-site production provides to the on-site vineyards that is not already present is the ability to use the "estate bottled" label under federal regulations, which appears to us to make little difference. Alternating Proprietorships are available throughout northern California and the project's processing capacity is not a constraint in finding an AP. Since the profitability of wine sales in China is what will determine whether Cornell Farms find it profitable to expand vineyard acreage, and since AP availability is not a constraint, we conclude that the granting of the application and the construction of a processing facility as proposed would NOT, by itself, have an effect on vineyard development.

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**ATTACHMENT 1**

Curriculum Vitae for Dr. Julian M. Alston and  
Dr. James T. Lapsley

## **JULIAN M. ALSTON**

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Julian Alston is a professor in the Department of Agricultural and Resource Economics at the University of California, Davis, Associate Director for Science and Technology Policy at the UC Agricultural Issues Center, and Director of the Robert Mondavi Institute Center for Wine Economics. He teaches graduate and undergraduate classes in microeconomic theory and the analysis of agricultural markets and policies. At UC Davis, Professor Alston leads a wide-ranging research program on the economics of public policies related to food and agriculture and related issues, including impacts on obesity and malnutrition. He has published many journal articles and books related to these subjects. Prior to beginning in his current position in 1988, Dr. Alston was the Chief Economist in the Department of Agriculture in Victoria, Australia.

### **Education**

- B. Agr. Sci., University of Melbourne, 1975, Agricultural Science
- M. Agr. Sci., La Trobe University, 1979, Agricultural Economics
- Ph.D., North Carolina State University, 1984, Economics

### **Selected Professional Awards, Honors, and Distinctions**

- Australian Agricultural and Resource Economics Society awards for Quality of Research Discovery, 2011, 2012, Quality of Communication, 2007, 2011, and for best articles in *Aust. J. Agr. Econ.*, 1990, *Rev. Mktg Agric. Econ.*, 1993, and *Aust J. Agr. Res. Econ.* 2007; AARES Distinguished Fellow, 2004; AARES President, 2001
- American Agricultural Economics Association awards for Outstanding article in *Amer. J. Agric. Econ.*, 1987; Distinguished Policy Contribution, 2001; Quality of Communication, 1986 (honorable mention), 1996 (honorable mention), 2007, 2011 (honorable mention); Quality of Research Discovery, 1996 (honorable mention), 2011; Food Safety and Nutrition Section, best paper, 2013; AAEA Fellow 2000
- Western Agricultural Economics Association (WAEA) awards for outstanding published research in agricultural economics, 1991, 1995, 2001, 2002, 2011, 2013; WAEA Distinguished Scholar, 2009.
- American Association of Wine Economists (AAWE) award for best presentation at the 2011 AAWE annual conference; Fellow 2012.
- International Association of Agricultural Economists (IAAE), Honorary Life Member, 2015,

### **Selected Publications, 2010–2014**

(see <http://are.ucdavis.edu/en/people/faculty/julian-alston/> for complete list of publications)

Alston, J.M., M.A. Andersen, J.S. James and P.G. Pardey. *Persistence Pays: U.S. Agricultural Productivity Growth and the Benefits from Public R&D Spending*. New York: Springer, 2010. (available at <http://www.springerlink.com/content/978-1-4419-0657-1>).

Alston, J.M., B.A. Babcock, and P.G. Pardey (eds.) *The Shifting Patterns of Agricultural Production and Productivity Worldwide*. CARD-MATRIC Electronic Book. Ames, IA: Center for Agricultural and Rural Development, May 2010. Available at [http://www.matric.iastate.edu/shifting\\_patterns/](http://www.matric.iastate.edu/shifting_patterns/).

- Okrent, A.M., and J.M. Alston. *Demand for Food in the United States: A Review of Literature, Evaluation of Previous Estimates and Presentation of New Estimates of Demand*. Giannini Foundation Monograph Series No. 48, Giannini Foundation of Agricultural Economics, Berkeley, CA, 2011.
- Andersen, M.A., J.M. Alston, and P.G. Pardey. "Capital Services in U.S. Agriculture: Concepts, Comparisons, and the Treatment of Interest Rates." *American Journal of Agricultural Economics* 93(3) (2011): 718–738.
- Alston, J.M., M.A. Andersen, J.S. James, and P.G. Pardey. "The Economic Returns to U.S. Public Agricultural Research." *American Journal of Agricultural Economics* 93(5) (2011): 1257–1277.
- Andersen, M.A., J.M. Alston, and P.G. Pardey. "Capital Use Intensity and Productivity Biases" *Journal of Productivity Analysis* 37(2012): 59–71.
- Okrent, A. and J.M. Alston. "The Effects of Farm Commodity and Retail Food Policies on Obesity and Economic Welfare in the United States." *American Journal of Agricultural Economics* 94(1) (February 2012): 611–646.
- Alston, J.M. and J.C. Parks. "The Returns to Promotion of Healthy Choices—Implications from a Market Experiment in Tasmania: Are You in the Dark about the Power of Mushrooms?" *Australian Journal of Agricultural and Resource Economics* 56(3)(2012): 347–365.
- Rickard, B.J., A.M. Okrent, and J.M. Alston. "How Have Agricultural Policies Influenced Calorie Consumption and Obesity in the United States?" *Health Economics* 22(2012): 316–339.
- Alston, J.M., A.M. Okrent, and B.J. Rickard. "Impact of Agricultural Policies on Caloric Consumption?" *Trends in Endocrinology and Metabolism* 24(6)(2013): 269–271.
- Alston, J.M., K. Fuller, J. Kaplan, and K. Tumber. "The Economic Consequences of Pierce's Disease and Related Policy in the California Winegrape Industry." *Journal of Agricultural and Resource Economics*, 38(2) (2013): 269–297.
- Alston, J.M. and P.G. Pardey. "Agricultural R&D and Food Security of the Poor." *Economic Papers* 32,3(2013): 289–297.
- Alston, J.M., W.J. Martin and P.G. Pardey. "Influences of Agricultural Technology on the Size and Importance of Food Price Variability." Chapter 1 in J.-P. Chavas, D. Hummels, and B. Wright (eds.), *Economics of Food Price Volatility*. Chicago: University of Chicago Press for NBER, 2014. <http://papers.nber.org/books/chav12-1>
- Alston, J.M. and P.G. Pardey. "Agriculture in the Global Economy." *Journal of Economic Perspectives* 28,1(2014): 121–146.
- Alston, J.M., W.J. Martin and P.G. Pardey. "Agricultural R&D and Long-Run Food Security." Chapter 15 in A. Balisacan, U. Chakravorty, and M.-L. Ravago (eds.), *Resources, Development and Public Policy: Concepts, Practice and Challenges*. Amsterdam: Elsevier, 2014.
- Alston, J.M., and P.G. Pardey. "Agricultural R&D, Food Prices, Poverty and Malnutrition Redux." Chapter in D. Sahn et al. (eds.), *New Directions in the Fight Against Hunger and Malnutrition*. Oxford: Oxford University Press, 2015.
- MacEwan, J.C., J.M. Alston, and A.M. Okrent. "The Consequences of Obesity for the External Costs of Public Health Insurance in the United States." *Applied Economic Perspectives and Policy* (2014): 696-716.

**James Thomas Lapsley**  
Curriculum Vitae

***Education***

1994 Ph.D., American History, University of California, Davis  
1974 M.A., American History, University of California, Davis  
1971 B.A., History, University of California, Santa Cruz

***Employment***

**2010-Present: Adjunct Associate Professor, Department of Viticulture and Enology, UC Davis and Researcher, Agricultural Issues Center, University of California.** (30% Recall appointment following retirement in June 2009) **Emeritus Continuing Educator, UC Davis University Extension**

Duties: Research and teach on international wine and grape economics and business.

**1996-2009: Continuing Educator and Chair, Department of Science, Agriculture and Natural Resources, U.C. Davis Extension**

Duties: Broad oversight of four program units: Agriculture, Land Use and Natural Resources, Occupational and Environmental Health, and Forensics totaling \$6.5 million. Lead distance learning initiative in the Ag. Sciences. Administer 3 Academic employees and 4 senior staff, create budgets and program plans, monitor course quality and fiscal performance. Over 8000 enrollments annually. Participate as 1 of 5 department chairs on University Extension's Management Council, which advises the Dean of University Extension. Retired, June 29, 2009.

**2003-2009: Adjunct Associate Professor, Dept. of Viticulture and Enology**

Duties: Taught VEN130 (Winery Economics and Marketing) and conduct research on winery economics. Taught VEN3 (Introduction to Winemaking) as requested (2003, 2004, 2007).

**2004-2006: Co Principal Investigator on Department of Homeland Security Grant**

Duties: Helped create multi-course curriculum on Agroterrorism as part of a \$4.6M. Homeland Security grant. Recruited, reviewed, and certified all instructors in program per Homeland Security guidelines.

**1991-1996: Split appointment between U.C. Davis Extension and the Department of Viticulture and Enology, U.C. Davis**

Duties: Focused on programs in Viticulture and Enology. Broad industry outreach responsibilities to California's wine and grape industry. With a Lecturer appointment, taught VEN 3 (Introduction to Winemaking) spring quarter 1992-1994, 140-160 students each year. Developed and taught VEN 130 (Wine Marketing and Economics of Production). Represented Department in numerous public and industry meetings and lectures. Created and served as Executive Director of the "Trellis Alliance," an industry support group for the Department of Viticulture and Enology.

### **1978-1991: Director, Agricultural Programs, U.C. Davis Extension**

Duties: Created a new program area within University Extension, growing the unit to over \$1 million. Established relationships with industry groups and departments, assessed educational needs, recruited instructors, and developed marketing plans, resulting in 100's of new programs. Always met or exceeded yearly budgets.

### **1980 to 2001: President and Winemaker, Orleans Hill Vinicultural Corporation**

Established a small (6000 case) winery in Woodland specializing in wine made from organically grown grapes with low or no-sulfite additions. Performed all winemaking, administrative, and marketing responsibilities including filing government reports, creating and overseeing an annual budget, and maintaining relationships with wholesalers and retailers. Wine was niche marketed in over 16 states and Canada. Winery was profitable, grossing just under \$300,000 yearly. Sold brand at end of 2001.

### ***Selected Publications, Papers, Awards and Lectures***

“Splendide Mendax: False Label Claims about the High and Rising Alcohol Content of Wine. Alston, J.M., K. Fuller, J.T. Lapsley, G. Soleas, and K. Tumber.” *Journal of Wine Economics* 11(2016): In Pres

“Napa Earthquake and the Wine Industry” Agricultural Issues Center Briefing. August 26, 2014.

“We Are Both Hosts: Napa, UC Davis, and the Search for Quality” Chapter in M. Kenney, *Public Universities and Regional Growth*. Stanford University press. 2014.

“The U.S. Wine Market in 2030 and Export/Import Market Dynamics.” Presentation Wine Industry Symposium, Napa May 2013.

“An Introduction to California Wine” Inaugural Lecture, UC Davis Confucius Institute. Davis September 17, 2013.

“Grapevines of Innovation: Ozone as a Cleaning Agent in the California wine Industry” Calanit Bar-am, Jim Lapsley, Rolf Mueller, Dan Sumner, *Journal of Wine Economics*, Vol 7, #1, 2012

"Economics of Wine Import Duty and Excise Tax Drawbacks.", Daniel A. Sumner, James T. Lapsley, and John Thomas Rosen-Molina. *Agricultural and Resource Economics Update*, Giannini Foundation, Vol 15, #4, May 2012

“The Introduction and Dispersal of *Vitis Vinifera* into California: A Case Study of the Interaction of People, Plants, Economics, and Environment” in *Biodiversity in Agriculture*, Gepts et al., Cambridge University Press, 2012

“O’Neill Vintners” Case study and presentation for UC Davis College of Agriculture Agribusiness Executive Seminar, Monterey, March 5, 2012

“The U.S. Wine Market in a Global Context” Presentation to Masters of Wine, North America, Davis, Feb. 1, 2012

“Winegrapes and Nuts: Historical Review of Production in the San Joaquin Valley and Implications for the future” Presentation at 30<sup>th</sup> Annual Agribusiness Conference, Fresno State University, November 10, 2011



“Too Much of a Good Thing? Causes and Consequences of Increases in Sugar Content of California Wine Grapes” Julian M. Alston, Kate B. Fuller, James T. Lapsley and George Soleas, *Journal of Wine Economics*, Vol. 6, #2, 2011

“Economic Implications of the Import Duty and Excise Tax Drawback for Wine Imported into the United States” Daniel A. Sumner, James T. Lapsley and John Thomas Rosen-Molina. Report by Agricultural Issues Center, August 20, 2011

“Looking Forward: Imagining the Market of California Wine in 2030” *Agricultural and Resource Economics Update*, Giannini Foundation, Vol 13, #6, July 2010 (Originally presented as a lecture at the pre-meeting symposium for the American Association of Wine Economists 4<sup>th</sup> Annual Meeting, Davis, CA, June 26, 2010.)

“The Economic Development of California Wine” Lecture for Organization International del La Vigne et Du Vin (OIV), July 13, 2009, University of California, Davis, California

“I Get No Kick From Champagne: How Label Law Devalued the Term “Champagne” in the United States” Paper presented at American Association of Wine Economists 3<sup>rd</sup> Annual Meeting, Reims, France, June 28, 2009

“An Economic Analysis of High Brix Winemaking,” Presentation, Annual Meeting Association of Washington State Winegrowers, Prosser, WA, February 18, 2009

“California Wine: An Economic Update” Paper presented at Cal-Med Conference, Centrarò, Italy, June 17, 2008.

“Indicators of Geographic Origins and Wine: Too Much of a Good Thing?” Paper presented at Cal-Med Conference, Centrarò, Italy, June 16, 2009.

“The United States Wine Consumer: A Review,” Proceedings, VIII Congreso de Vinivicultura, Mendoza, Argentina, November 2007.

“Implications for the development of Appellations in the U.S.: The case of Napa,” Proceedings, OIV Annual Meeting, Logroño, Spain, June 2006.

Fulbright Fellow, Facultad de Química, University of the Republic, Montevideo Uruguay  
August-November, 2003

“The present and future of the international wine industry,” Bisson, et. al., *Science*, August 8, 2002

“Argentina: A Giant Awakening,” *Wines and Vines*, November 2001

*Successful Wine Marketing*, (Editors, Moulton & Lapsley), Aspen Publishers, 2001 Awarded OIV Grand Prize, 2001

“Positioning and Repositioning,” (Lapsley & Moulton), *Successful Wine Marketing*,

“Organic Wine in North America,” *The Oxford Companion to the Wines of North America*, Oxford University Press, 2000

*Bottled Poetry: Napa Winemaking from Repeal to the Modern Era*, University of California Press, 1996

*Making Table Wine at Home* (Cooke & Lapsley), U.C. Division of Agriculture and Natural Resources

“A Note on the History of Wine Appreciation Courses,” *The University of California/Sotheby Book of California Wine*, University of California Press, 1987

### ***Recent Teaching***

Viticulture and Enology 003 and XD003 (Introduction to Wine Making—3 units), summer quarter 2011, 2010, 2008, winter quarter 2012, 2007, 2004, 2003, 2000, 1999, spring quarter 1994, 1993, 1992

Viticulture and Enology 198 (Group study on wine marketing and economics—3 units), spring quarter, 2013, 2012, 2011, 2010 2009, 2008, 2006

Viticulture and Enology 130 (Wine Marketing and Economics—9 units), summer quarter, 1994-2005.

Numerous lectures in short courses, seminars, and industry meetings over the past 30 years, including presentations in France, Spain, Uruguay, Argentina, Chile and Korea and various states in the U.S.

### ***Industry and University Service***

1984, Chair, U.C. Davis Academic Federation

1985, 1989, 2006-2008, Member, Academic Federation Personnel Review Committee

1986 and 1990, Chair, Academic Federation Personnel Review Committee

1990, Member, Chancellor’s Taskforce on Revitalizing Landgrant Commitment

1993-1995, General Sessions Chair, Annual Meeting, American Society for Viticulture and Enology

1995-1997, Director, American Society for Viticulture and Enology

1998-Present, Expert, Training Committee, Organization International de la Vigne et du Vin (OIV) and International Association of Universities Teaching Viniculture (AUIV)

1999-2002, Member, Sustainability Section, WineVision (Industry Planning Organization)

2003-2012, Ex -Officio member, Board of Directors, North American Masters of Wine.

2004, Member, Program Committee, Annual Meeting, American Society for Enology and Viticulture

2004-2006, Chair, Outreach Committee, Dept. of Viticulture and Enology

2006-2012t, Member, Outreach Committee, Dept. of Viticulture and Enology

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## **ATTACHMENT 2**

Memorandum from Bob Cabral

## Introduction.

My name is Bob Cabral. I am a professional winemaker and wine consultant in Sonoma County. I understand the Cornell winery project has a capacity of 150 tons of grapes per year, but its vineyards are projected to produce up to 100 tons of grapes. I was retained to address the question of whether that excess capacity would be likely to cause the planting of additional vineyards on Cornell's property.

For these purposes, in September 2015 I visited and inspected the property (which includes all parcels on Wappo Rd, which is now known as Spring Mountain Summit Trail); I met with the applicant's full time winemaker and discussed the project with other team members to gain an understanding of the owner's goals and plans; I have reviewed Sonoma County's VESCO ordinance and the tree removal provisions associated therewith; and I have read portions of the EIR relevant to my work herein. My opinions rely on this investigation, as well as my experience in the industry as set forth below.

## Professional Background.

I received a Bachelor's of Science degree in winemaking from Fresno State, with a minor in biochemistry. During my professional career I have worked at a wide range of wineries, from among the largest in California (Bronco Wine Company- with current production I have been informed is in the range of 20,000,000 cases annually) to the very boutique (5,000 to 10,000 cases annually), and wineries in between. My professional career began in 1981 at Bronco where I remained until 1984. I then worked for four years as assistant winemaker at a company called Vie-De, which was a 13 million gallon (approximately 5.5 million cases) wine production facility in the central valley.

In 1986, I became an assistant winemaker at DeLoach winery, and in 1990 I became the associate winemaker, which position I held until I left in 1992. From there, I worked for the Kunde Winery as their custom crush winemaker until 1994. At that time, I became the winemaker for Alderbrook Winery, where I remained until 1997, when I became the winemaker at Hartford Court Winery.

In 1998, I accepted the position of Winemaker at Williams-Selyem. I became the General Manager and part owner at Williams-Selyem in 1999, and remained so until this year. I am presently a wine industry consultant as well as a part owner of a winery.

In addition to winemaking, my career has involved a significant amount of vineyard work. I have extensive experience in vineyard development, farming and replanting vineyards; including working on projects which required tree removal and geotechnical investigations. I've also devoted a significant part of my career to developing, implementing and overseeing marketing and sales programs, and brand development strategies.

## The Cornell Vineyard.

The Cornell vineyard was completely established by 2004. There are approximately 20 acres planted to grapes as follows: (Cabernet Sauvignon: 17 acres, Merlot: 1 acre, Petit Verdot: 1 acre, Malbec: ½ acre, Cabernet Franc: ½ acre. The vineyard is Certified Organic and Certified fish friendly. When the vineyard was established, computer assisted programs were far less common. Presently, most engineers who

design vineyards use various programs for that purpose- which vary from engineer to engineer. It is unknown what particular technology, if any, was used in that process. Cornell uses computer-assisted technology to manage watering, but this has no impact on costs to establish the vineyard. Using the then-standard methods (notably soil analysis factored in by climate concerns among others), Cornell selected and planted those lands which he believed were conducive to planting grapes of the caliber Cornell was striving for.

Cornell subsequently purchased a number of contiguous parcels. These were not purchased for vineyard development purposes; they were purchased from neighbors who opposed a winery and did not want to share the road with a winery, and in one instance from a neighbor who opposed vineyards and refused to close vineyard gates. In the years which have passed since those purchases, Cornell has not undertaken planting any additional grapes, as it has not been part of his long-term plans.

#### The Cornell Team.

Cornell has a full time winemaker, a full time vineyard manager and crew (not outside labor) and a consulting winemaker and a sales and marketing team. Cornell does not own any other vineyards.

#### Use of the Vineyard Grapes.

Cornell does not sell fruit to other wineries- it is used entirely in Cornell's estate wine. While the EIR makes reference to "Truck Shipments of Grapes During Harvest Season" (section IV.A-6), it is incorrect to the extent that it implies grapes are sold to others, or "picked up" by "customers" (as in wineries). The word "customers" should be "delivery trucks" as all grapes Cornell grows are delivered by Cornell or an outside company and shipped via truck to the winery where Cornell holds a bond and makes its own wine.

The EIR is otherwise correct as to the number of trips and small loads of fruit which Cornell takes off site for processing, all of which would be avoided if the winery were constructed. It should be noted that when one owns vineyards and has a bonded winery, they can make many "passes" through the vineyard harvesting small amounts of only the most perfect fruit, whereas when one purchases fruit, there is less flexibility, and larger loads of imported fruit can be expected, hence the difference in projected tonnage. Trucking costs are relatively nominal; for the entire 50 tons that would be imported, it is a matter of a few thousand dollars at most. For the grapes which are currently exported, it is slightly more expensive due to a greater number of smaller loads.

#### The Winery.

Cornell is a bonded winery, and for almost a decade has made its own wine using its own winemaker and consulting winemaker via an alternating proprietorship (not custom crush). Grapes have come from Cornell's estate vineyard, and some fruit is purchased from other vineyards(see "Long-term Goals" below). The wines are sold exclusively to private clients in China. None of the wine produced by Cornell has been designated as estate bottled- and no plan is in place to do so if the Use Permit is granted.

### Vineyard Development Costs.

The Cornell vineyard was planted at a time when costs were dramatically lower than they are at present. At that time, ranges of \$35,000-\$45,000 per acre were typical for developing vineyards on mountain sites like Cornell's. For this type of site, the present costs to install a high quality vineyard of a caliber suitable for Cornell's goals can easily run over \$200,000 per acre.

I would expect that that number to be much higher on Cornell's property for a number of reasons. Chief among them is Sonoma County's VESCO ordinance, and notably the tree removal provisions of that ordinance. With the exception of a very small area on one parcel (that has other challenges which make it patently unsuitable for vineyard), just the tree density and topography of Cornell's land strongly suggest the conclusion that almost any new vineyard would have to comply with the tree removal ordinance.

That ordinance requires among other things that in addition to the usual array of professionals, an applicant must have a site specific, full geo technical evaluation performed in order to confirm site stability. This typically involves core borings, and if need be major slope stability improvements. In my own experience ( including a vineyard development which required such work for other reasons) such an investigation is extremely costly, and for small developments is disproportionately expensive; and from viewing the property I saw no areas which would be, on their face, suitable for large developments (this is well beyond the basic questions of soil types and profiles and fundamental drainage issues associated with non-level 2/tree removal vineyard developments).

A full geo-technical investigation has the potential to disqualify many steeper sites in mountain locations for vineyards. This can be the result of learning that subsurface conditions are such that they require stabilization that can be extraordinarily expensive- such as being over an ancient landslide, which I understand was a major issue raised for the original winery location. This factor alone makes "generalized" investigations impractical- unless one has a reasonable level of confidence as to potential outcomes, the cost alone of such an investigation can be prohibitive; and certainly not something reasonable to do unless one can identify specific sites that are promising, and even then being prepared to find that the site is infeasible, or that the economics just don't "pencil out".

In addition, the applicant has to prove they meet the criteria of the Universal Soil Loss Equation (or a modified version of that equation), which, for steeper hillsides on mountain sites, with complicated drainage, can be an extraordinarily expensive standard to design, and even more expensive to meet. For a site like Cornell's, complying with the tree removal ordinance could easily run costs to well in excess of \$350,000 per planted acre for fruit of the caliber that Cornell is striving for.

In my opinion, these type of costs simply make vineyard development on Cornell's lands economically unfeasible- it is extraordinarily difficult to capture that type of investment; particularly given the availability of world-class Sonoma County grapes (see "Long Term Goals" below). This is even more the case in Sonoma County where bottle prices, even for high-end Cabernet, don't approach the ranges of Napa cabernets. Apropos to this point, it is my understanding there are very few applications for vineyard developments on level 2 sites which require compliance with the tree removal ordinance since it was passed, in large part because of the exorbitant costs associated therewith.

An alternative is to go through CEQA review, which is an even more expensive process, and if the saga of this winery application is any indication, that would be simply economically untenable.

I further understand that there is also a challenge to VESCO presently pending before the California Court of Appeals, by which the appellants are seeking to force CEQA review of vineyard developments. If successful, this will make the already exorbitant costs of complying with the tree removal ordinance skyrocket even higher.

#### Production History.

Vineyard production can vary widely by site, vintage, variety and clone and farming practices (and myriad other factors). Cornell keeps its vineyard production and financial information confidential; however ranges up to 5 tons per acre can be achieved depending on all applicable factors.

#### Other areas suitable for vineyards on Cornell's property.

Cornell only owns the lands already identified in the EIR- he has neither bought nor sold any other properties in Sonoma or Napa since the time the EIR was certified. While someone with experience in vineyard development can certainly look at some particular pieces of property and rather easily rule them out as suitable sites for vineyards based on some fairly obviously prohibitive factors (e.g., excessive slope or topography, presence of biotic features, wetlands, waters, trees, etc.), determining whether potentially suitable lands not eliminated from consideration by such factors are actually suitable for growing vineyards (or vineyards of suitable quality) requires a considerably more comprehensive investigation and study.

For example, one can easily see at Cornell there are huge sections which are simply too steep to be planted; what lands might be within the "permissible" slope steepness have many other challenges. Even if there were lands worth investigating, without undertaking a comprehensive study (including soil analysis, drainage and engineering issues, sun exposure and many other issues), it is speculative to try to determine if a piece of land is actually suitable for vineyards. This is the difference between what might be possible in the abstract, versus what is feasible in light of the actual conditions disclosed by a full investigation, and balanced against the economic impacts and the winery's plans. Even if soil is suitable for vineyard, the incredibly high costs associated with development in a site like Cornell's leaves me of the opinion there is little upside for him to plant more vineyards on those lands.

This is highlighted by how wine quality is impacted in a significant way by the soil where the grapes are grown. Soil is the product of weathering of the earth's crust, and that is not a "straight line", and even within a specific place, not all soil is "created equal". It is why not all vineyard sites are equal, and why even sites a few steps from each other can differ greatly, and why not even all places within a single vineyard can produce wines of a similar caliber. It is truly a site-specific analysis which must be done- and simply because there are already vineyards "there", doesn't mean they are suitable or desirable "here" for a specific wine program, even if on the same parcel, or even if adjacent to planted lands.

Cornell did identify years ago that a small piece on 100 Wappo Rd might have the potential for 4 or so acres of vineyard. However, Cornell did not think it suitable for the quality of fruit he wants to grow, and therefore has never made any further inquiries or efforts to develop it. Further, it has since been determined that the proximity of a Class 2 stream, Mark West Creek and a biotics resource overlay all make development there infeasible regardless of any other factor.



No comprehensive analysis has been undertaken to determine if vines can be planted elsewhere- Cornell has had no plans to do so. However, the exorbitant costs associated with such development as described above make it an unattractive proposition even if it were discovered there were suitable areas to plant.

### Brand Building.

Through my experience, I am very familiar with the business models of wineries in California- and especially Sonoma and Napa counties. Apropos here, I know how wineries build their brands, structure their product profiles and portfolios, as well as how wineries build wine programs, source fruit and plant vineyards, and their reasons for doing so. In my opinion, the mere fact that a winery has more production capacity than its vineyards produce, does not mean it can be inferred that a winery will plant more vineyards to utilize that capacity. To the contrary, when all the factors around planting vineyards discussed above and developing wine brands are concerned, there are many better reasons for a winery to obtain fruit from other sources than to develop more vineyards themselves.

Moreover, in my experience it is very rare in California for a winery with production capacity that is larger than a few hundred cases to only produce wine from a single estate location where the winery is located. Most wineries work with fruit from multiple sources, not just from one single source. Even those wineries that emphasize an "estate" wine program (meaning all wines come from vineyards that are owned or controlled by the winery), typically have "estate" vineyards they own in other places apart from whatever vineyards might be on the actual winery site. Cornell does not have such holdings.

This is so for a number of reasons; from a winemaking perspective it provides opportunities to blend wines from various sites into a single wine (to make a more layered or complex wine). From a winery sales and marketing perspective, the reasoning is as simple as giving a consumer a choice- people like to be able to choose among wines.

Further, wineries often want to offer wines from grapes varieties which wouldn't or couldn't be grown in the same place. A classic example of this is a warmer site where Bordeaux varieties grow well, but Chardonnay not as well. So, rather than plant grape varieties which wouldn't do well there, or plant a variety which would do well there but which the winery doesn't need, a winery typically would source fruit from other vineyards (whether its own vineyard or another vineyard owner's ) to develop another product to offer to consumers.

In addition, being able to offer the same variety of grape but from different places and in different bottlings allows a winery to really explain the impact of "place" on wines, which is often used to demonstrate the very special and unique caliber of the wines grown on the estate property, particularly if the on-site fruit has a sense of "scarcity".

Finally, unlike broadly projecting potential agricultural uses for undeveloped land in general terms (such as if it were sold), before planting vineyards a winery must also decide whether, even if grapes could be grown there, the winery would want or need those grapes. Aside from quality concerns (such as the area Cornell located but rejected as it would not grow fruit of the caliber Cornell desires), one can have too much of a particular grape variety for a winery's particular business plan as generally consumers are drawn to scarcity rather than excess.

The amount of wine currently projected to be produced from the on-site vineyard, is, in my opinion, about as much of a single wine from a single location that a winery of this size and type would want, thus militating against planting more vineyards on Cornell's contiguous properties.

Finally, given the extraordinary costs which can be associated with vineyard development (particularly with tree removal on mountainous sites under Sonoma County's VESCO ordinance), the economics of those costs versus potential sales costs need to be evaluated, and purchasing fruit elsewhere is a far more economically sensible approach.

### Cornell's Long-Term Goals

Cornell's plans have always included sourcing some "outside" fruit for various purposes- including blending and developing a diverse portfolio of wines. In the past several vintages, Cornell has purchased fruit from other vineyards as a step in this direction- with the long term goal of someday having a roughly 2/3 production from the estate vineyard and 1/3 from other places. Cornell has no plans to sell grapes to other wineries. Functionally, this leaves no room for additional estate vineyards to be planted.

### Other Challenges to Planting More Vineyards.

When Cornell initially applied for the winery it had a footprint of some 13,000 square feet. For unspecified reasons, it was determined by staff that this was too large for 10,000 cases, and Cornell agreed to reduce the footprint. This limits how much space is available for barrel aging, and at that time Cornell envisioned 24 months to bottling.

This has taken on new significance as Cornell intends to begin experimenting with a 3 year barrel aging program (done for tannin management by a number of the finest wineries in California). This means that despite having less space available, Cornell will have to store an additional vintage of wine on site- which will come at the expense of some fermentation space. This too, is a disincentive for Cornell to undertake the costs to plant more vineyards, as he is already going to be challenged for production space between his existing production, longer barrel aging, and his business goals referenced above.

### Conclusions.

In my opinion there is no significant likelihood that Cornell obtaining a Use Permit with the small capacity in excess of that produced by its estate vineyard will spur more vineyard development on Cornell's lands. Simply because one has undeveloped land or has a winery with capacity for more grapes, doesn't mean it is necessarily a good idea to plant grapes there, and quite often the opposite is true, particularly when costs and benefits are balanced against each other.

The primary reason for my opinion in this instance is largely economic- the costs associated with further vineyard development on Cornell's land is grossly disproportionate to the potential return. Because of the time to do a full investigation, undergo reviews and gain approvals, it would likely be some eight (8) years before one could even have quality fruit- and one must carry all those development and farming costs during that time, and then try to begin recovering them.

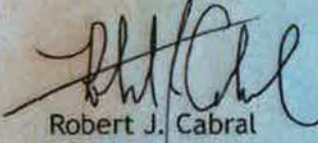
Further, Cornell can buy the highest quality fruit in Sonoma County for far less than it can develop vineyards on its property. Purchased fruit also offers myriad other opportunities for brand building, as

set forth above, and at far more attractive prices. It is also entirely consistent with Cornell's plans to split production between the estate grown and imported fruit, and in my opinion the most likely scenario for filling capacity, which is underscored by the fact Cornell is already doing so.

Aside from the economic challenges, the fundamental question of whether any specific potential site for vineyards is suitable for the quality Cornell seeks would have to first be addressed, which, for the reasons identified above under "Vineyard Development Costs" is not reasonable or practical for this site. Even if Cornell owned lands which were suitable for wine grapes, planting grapes simply because you have capacity to fill is often a very poor business strategy without consideration of other factors as discussed above. Not planting more grapes is consistent with Cornell's plan for 2/3 of the wine coming from his estate and 1/3 other places. Planting more vineyards is inconsistent with that plan, and further complicated by the limited storage following the forced reduction in winery footprint. I also think Cornell is at a point where planting more grapes on his property for this very small winery and brand won't further the "limited" concept of the wines grown on his property- and in this regard, consumers view "limited" as more desirable than "abundant".

Finally, in my opinion the economic analysis of development costs for vineyards on lands such as Cornell's, the waiting time for the vineyard to come into production, when weighed against the cost of and benefits of purchasing world-class Sonoma County fruit there is no economic upside or business development advantage to planting more vineyards on Cornell's property, which furthers my opinion that additional vineyards are not likely to result if the Use Permit is granted.

For all these reasons, it is my opinion it is not likely or even reasonably foreseeable that granting Cornell a Use Permit for a 10,000 case winery would induce the planting of new vineyards on Cornell's other lands.



Robert J. Cabral

# **APPENDIX D**

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## Traffic Counts

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COUNTY OF SONOMA  
ST. HELENA RD. E/O CALISTOGA RD.

Site Code: 1EB  
st helena 1

EASTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/09/15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	3	0	0	1	0	0	0	0	0	0	0	0	0	4
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	4	0	0	1	0	0	0	0	0	0	0	0	0	5
05:00	0	4	7	0	0	0	0	0	0	0	0	0	0	0	11
06:00	0	11	12	0	5	0	0	0	0	0	0	0	0	0	28
07:00	0	29	17	0	5	1	0	0	0	0	0	0	0	2	54
08:00	1	43	16	0	6	1	0	2	0	0	0	0	0	0	69
09:00	0	17	1	0	5	0	0	0	0	0	0	0	0	0	23
10:00	0	23	8	0	4	0	0	0	0	0	0	0	0	0	35
11:00	0	23	6	0	0	0	0	1	0	0	0	0	0	0	30
12 PM	0	18	11	0	3	1	0	0	0	0	0	0	0	0	33
13:00	0	27	5	0	3	0	0	0	0	0	0	0	0	0	35
14:00	0	24	5	0	2	0	0	1	0	0	0	0	0	0	32
15:00	0	24	7	0	6	0	0	1	0	0	0	0	0	0	38
16:00	0	28	4	0	2	0	0	0	0	0	0	0	0	0	34
17:00	0	24	3	0	0	0	0	0	0	0	0	0	0	0	27
18:00	0	20	5	0	5	1	0	0	0	0	0	0	0	1	32
19:00	0	21	3	0	1	0	0	0	0	0	0	0	0	0	25
20:00	0	21	1	0	1	0	0	0	0	0	0	0	0	0	23
21:00	0	13	2	0	0	0	0	0	0	0	0	0	0	0	15
22:00	0	21	3	0	0	0	0	0	0	0	0	0	0	0	24
23:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
Total	1	408	118	0	50	4	0	5	0	0	0	0	0	3	589
Percent	0.2%	69.3%	20.0%	0.0%	8.5%	0.7%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	
AM Peak	08:00	08:00	07:00		08:00	07:00		08:00							07:00
Vol.	1	43	17		6	1		2							2
PM Peak		16:00	12:00		15:00	12:00		14:00							18:00
Vol.		28	11		6	1		1							1

COUNTY OF SONOMA  
ST. HELENA RD. E/O CALISTOGA RD.

Site Code: 1EB  
st helena 1

EASTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/10/15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	11	2	0	0	0	0	0	0	0	0	0	0	0	13
06:00	0	15	14	0	6	0	0	0	0	0	0	0	0	0	35
07:00	1	24	9	0	4	1	0	0	0	0	0	0	0	1	40
08:00	2	40	14	0	9	0	0	0	0	0	0	0	0	2	67
09:00	1	23	7	0	3	0	0	0	0	0	0	0	0	0	34
10:00	1	15	4	0	5	0	0	0	0	0	0	0	0	0	25
11:00	0	18	9	1	0	0	0	0	0	0	0	0	0	0	28
12 PM	2	31	6	0	4	0	0	0	0	0	0	0	0	0	43
13:00	0	21	4	0	2	0	0	1	0	0	0	0	0	0	28
14:00	0	23	3	0	0	1	0	0	0	0	0	0	0	0	27
15:00	0	33	5	1	2	1	0	0	0	0	0	0	0	0	42
16:00	0	19	8	0	0	0	0	0	0	0	0	0	0	0	27
17:00	0	26	6	0	3	0	0	0	0	0	0	0	0	0	35
18:00	0	23	7	0	2	0	0	0	0	0	0	0	0	0	32
19:00	0	18	2	0	3	0	0	0	0	0	0	0	0	0	23
20:00	0	13	3	0	1	0	0	0	0	0	0	0	0	1	18
21:00	0	13	2	0	0	0	0	0	0	0	0	0	0	0	15
22:00	0	8	1	0	0	0	0	0	0	0	0	0	0	0	9
23:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
Total	7	388	107	2	46	3	0	1	0	0	0	0	0	4	558
Percent	1.3%	69.5%	19.2%	0.4%	8.2%	0.5%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	
AM Peak	08:00	08:00	06:00	11:00	08:00	07:00									08:00
Vol.	2	40	14	1	9	1									2
PM Peak	12:00	15:00	16:00	15:00	12:00	14:00		13:00							20:00
Vol.	2	33	8	1	4	1		1							1

COUNTY OF SONOMA  
ST. HELENA RD. E/O CALISTOGA RD.

Site Code: 1EB  
st helena 1

EASTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/11/15	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	3	2	0	1	0	0	0	0	0	0	0	0	0	6
05:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
06:00	0	11	11	0	6	0	0	0	0	0	0	0	0	0	28
07:00	0	27	11	1	4	1	0	0	0	0	0	0	0	0	44
08:00	1	35	7	0	4	1	0	1	0	0	0	0	0	0	49
09:00	2	21	6	1	6	0	0	0	0	0	0	0	0	0	36
10:00	0	17	6	0	1	0	0	0	0	0	0	0	0	0	24
11:00	0	31	9	1	2	0	0	0	0	0	0	0	0	1	44
12 PM	0	22	7	0	2	0	0	0	0	0	0	0	0	0	31
13:00	0	29	5	0	1	0	0	0	0	0	0	0	0	4	39
14:00	1	24	2	1	2	0	0	0	0	0	0	0	0	0	30
15:00	0	34	8	0	2	0	0	1	0	0	0	0	0	1	46
16:00	0	26	12	1	1	0	0	0	0	0	0	0	0	0	40
17:00	1	24	10	0	0	0	0	0	0	0	0	0	0	0	35
18:00	1	20	3	0	3	0	0	1	0	0	0	0	0	0	28
19:00	0	32	2	0	0	0	0	0	0	0	0	0	0	0	34
20:00	0	16	2	0	2	0	0	0	0	0	0	0	0	0	20
21:00	0	12	1	0	2	0	0	0	0	0	0	0	0	0	15
22:00	0	5	3	0	2	0	0	0	0	0	0	0	0	0	10
23:00	0	9	2	0	1	0	0	0	0	0	0	0	0	0	12
Total	6	410	112	5	42	2	0	3	0	0	0	0	0	6	586
Percent	1.0%	70.0%	19.1%	0.9%	7.2%	0.3%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	
AM Peak	09:00	08:00	06:00	07:00	06:00	07:00		08:00							11:00
Vol.	2	35	11	1	6	1		1							1
PM Peak	14:00	15:00	16:00	14:00	18:00			15:00							13:00
Vol.	1	34	12	1	3			1							4

COUNTY OF SONOMA  
ST. HELENA RD. E/O CALISTOGA RD.

Site Code: 1EB  
st helena 1

EASTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/12/15	0	2	2	0	2	0	0	0	0	0	0	0	0	0	6
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
04:00	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
05:00	0	5	4	0	0	0	0	0	0	0	0	0	0	0	9
06:00	0	9	8	0	3	0	0	0	0	0	0	0	0	0	20
07:00	1	15	8	0	0	0	0	1	0	0	0	0	0	0	25
08:00	0	22	4	0	2	0	0	0	0	0	0	0	0	0	28
09:00	1	26	5	0	2	1	0	0	0	0	0	0	0	0	35
10:00	1	20	6	0	3	1	0	0	0	0	0	0	0	0	31
11:00	0	24	8	0	1	0	0	0	0	0	0	0	0	0	33
12 PM	1	28	8	0	1	1	0	0	0	0	0	0	0	0	39
13:00	2	23	5	0	2	0	0	0	0	0	0	0	0	0	32
14:00	1	31	10	1	3	0	0	0	0	0	0	0	0	0	46
15:00	2	28	5	0	1	0	0	1	0	0	0	0	0	0	37
16:00	0	29	5	0	2	0	0	0	0	0	0	0	0	0	36
17:00	0	31	7	0	2	0	0	0	0	0	0	0	0	0	40
18:00	0	19	3	0	0	0	0	0	0	0	0	0	0	0	22
19:00	0	10	2	0	2	0	0	0	0	0	0	0	0	0	14
20:00	0	8	2	0	1	0	0	0	0	0	0	0	0	0	11
21:00	0	14	3	0	0	0	0	0	0	0	0	0	0	0	17
22:00	0	11	1	0	0	0	0	0	0	0	0	0	0	0	12
23:00	0	12	1	0	0	0	0	0	0	0	0	0	0	0	13
Total	9	373	97	1	29	3	0	2	0	0	0	0	0	0	514
Percent	1.8%	72.6%	18.9%	0.2%	5.6%	0.6%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	09:00	06:00		06:00	09:00		07:00							
Vol.	1	26	8		3	1		1							
PM Peak	13:00	14:00	14:00	14:00	14:00	12:00		15:00							
Vol.	2	31	10	1	3	1		1							

COUNTY OF SONOMA  
ST. HELENA RD. E/O CALISTOGA RD.

Site Code: 1EB  
st helena 1

EASTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/13/15	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
06:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
07:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
08:00	1	13	2	0	0	0	0	0	0	0	0	0	0	0	16
09:00	0	12	2	0	1	0	0	0	0	0	0	0	0	2	17
10:00	1	15	1	0	0	0	0	0	0	0	0	0	0	0	17
11:00	0	20	5	0	0	0	0	0	0	0	0	0	0	0	25
12 PM	0	21	4	0	1	0	0	0	0	0	0	0	0	0	26
13:00	0	22	9	0	1	0	0	0	0	0	0	0	0	1	33
14:00	0	21	4	0	0	0	0	1	0	0	0	0	0	0	26
15:00	2	23	5	1	3	0	0	1	0	0	0	0	0	0	35
16:00	0	14	3	0	0	0	0	0	0	0	0	0	0	0	17
17:00	0	16	1	0	1	0	0	1	0	0	0	0	0	0	19
18:00	0	19	4	0	2	0	0	0	0	0	0	0	0	0	25
19:00	0	11	3	0	1	0	0	0	0	0	0	0	0	0	15
20:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
21:00	1	8	2	0	3	0	0	0	0	0	0	0	0	0	14
22:00	0	11	0	0	1	0	0	0	0	0	0	0	0	0	12
23:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
<b>Total</b>	<b>5</b>	<b>257</b>	<b>49</b>	<b>1</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>332</b>
<b>Percent</b>	<b>1.5%</b>	<b>77.4%</b>	<b>14.8%</b>	<b>0.3%</b>	<b>4.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.9%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.9%</b>	
<b>AM Peak</b>	<b>08:00</b>	<b>11:00</b>	<b>11:00</b>		<b>09:00</b>									<b>09:00</b>	
<b>Vol.</b>	<b>1</b>	<b>20</b>	<b>5</b>		<b>1</b>									<b>2</b>	
<b>PM Peak</b>	<b>15:00</b>	<b>15:00</b>	<b>13:00</b>	<b>15:00</b>	<b>15:00</b>			<b>14:00</b>						<b>13:00</b>	
<b>Vol.</b>	<b>2</b>	<b>23</b>	<b>9</b>	<b>1</b>	<b>3</b>			<b>1</b>						<b>1</b>	

COUNTY OF SONOMA  
ST. HELENA RD. E/O CALISTOGA RD.

Site Code: 1EB  
st helena 1

EASTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/14/15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
02:00	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	7	3	0	0	0	0	0	0	0	0	0	0	0	10
06:00	0	15	14	0	0	0	0	1	0	0	0	0	0	0	30
07:00	0	25	7	0	5	0	0	0	0	0	0	0	0	0	37
08:00	0	34	12	0	7	0	0	0	0	0	0	0	0	0	53
09:00	1	30	4	0	7	0	0	1	0	0	0	0	0	0	43
10:00	0	19	9	0	2	1	0	0	0	0	0	0	0	0	31
11:00	1	18	6	0	1	0	0	0	0	1	0	0	0	0	27
12 PM	0	20	6	0	2	0	0	1	0	0	0	0	0	0	29
13:00	1	15	3	0	4	0	0	1	0	0	0	0	0	0	24
14:00	0	31	5	0	2	0	0	0	0	0	0	0	0	0	38
15:00	0	22	9	1	4	0	0	0	0	0	0	0	0	0	36
16:00	0	21	7	0	1	0	0	0	0	0	0	0	0	0	29
17:00	0	31	6	0	1	0	0	0	0	0	0	0	0	0	38
18:00	0	20	7	0	2	0	0	0	0	0	0	0	0	0	29
19:00	0	10	3	0	4	0	0	0	0	0	0	0	0	0	17
20:00	0	14	4	0	1	0	0	0	0	0	0	0	0	0	19
21:00	0	9	1	0	2	0	0	0	0	0	0	0	0	0	12
22:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	4	1	0	1	0	0	0	0	0	0	0	0	0	6
<b>Total</b>	<b>3</b>	<b>358</b>	<b>108</b>	<b>1</b>	<b>48</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>524</b>
<b>Percent</b>	<b>0.6%</b>	<b>68.3%</b>	<b>20.6%</b>	<b>0.2%</b>	<b>9.2%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>0.8%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	
<b>AM Peak</b>	<b>09:00</b>	<b>08:00</b>	<b>06:00</b>		<b>08:00</b>	<b>10:00</b>		<b>06:00</b>		<b>11:00</b>					
<b>Vol.</b>	<b>1</b>	<b>34</b>	<b>14</b>		<b>7</b>	<b>1</b>		<b>1</b>		<b>1</b>					
<b>PM Peak</b>	<b>13:00</b>	<b>14:00</b>	<b>15:00</b>	<b>15:00</b>	<b>13:00</b>			<b>12:00</b>							
<b>Vol.</b>	<b>1</b>	<b>31</b>	<b>9</b>	<b>1</b>	<b>4</b>			<b>1</b>							



COUNTY OF SONOMA  
ST. HELENA RD. E/O CALISTOGA RD.

Site Code: 1EB  
st helena 1

EASTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/15/15	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
02:00	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	2	0	0	2	0	0	0	0	0	0	0	0	0	4
05:00	0	7	8	0	0	0	0	0	0	0	0	0	0	0	15
06:00	0	12	10	0	2	0	0	0	0	0	0	0	0	0	24
07:00	0	30	12	0	7	0	0	0	0	0	0	0	0	0	49
08:00	0	31	3	0	2	0	0	0	0	0	0	0	0	0	36
09:00	0	14	14	0	0	0	0	0	0	0	0	0	0	0	28
10:00	0	21	5	0	3	0	0	1	0	0	0	0	0	0	30
11:00	1	17	7	0	2	0	0	0	0	0	0	0	0	0	27
12 PM	0	15	10	1	1	0	0	0	0	0	0	0	0	1	28
13:00	0	15	5	0	3	0	0	0	0	0	0	0	0	0	23
14:00	0	18	8	1	1	1	0	0	0	0	0	0	0	0	29
15:00	0	26	7	0	2	0	0	1	0	0	0	0	0	3	39
16:00	1	22	5	0	2	1	0	0	0	0	0	0	0	1	32
17:00	0	31	3	0	2	0	0	0	0	0	0	0	0	0	36
18:00	0	29	8	0	4	0	0	0	0	0	0	0	0	0	41
19:00	0	21	4	0	1	0	0	1	0	0	0	0	0	0	27
20:00	0	8	4	0	0	0	0	0	0	0	0	0	0	0	12
21:00	0	11	2	0	1	0	0	0	0	0	0	0	0	0	14
22:00	0	7	3	0	1	0	0	0	0	0	0	0	0	0	11
23:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
<b>Total</b>	<b>2</b>	<b>350</b>	<b>120</b>	<b>2</b>	<b>38</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>522</b>
<b>Percent</b>	<b>0.4%</b>	<b>67.0%</b>	<b>23.0%</b>	<b>0.4%</b>	<b>7.3%</b>	<b>0.4%</b>	<b>0.0%</b>	<b>0.6%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>1.0%</b>	
<b>AM Peak</b>	<b>11:00</b>	<b>08:00</b>	<b>09:00</b>		<b>07:00</b>			<b>10:00</b>							
<b>Vol.</b>	<b>1</b>	<b>31</b>	<b>14</b>		<b>7</b>			<b>1</b>							
<b>PM Peak</b>	<b>16:00</b>	<b>17:00</b>	<b>12:00</b>	<b>12:00</b>	<b>18:00</b>	<b>14:00</b>		<b>15:00</b>						<b>15:00</b>	
<b>Vol.</b>	<b>1</b>	<b>31</b>	<b>10</b>	<b>1</b>	<b>4</b>	<b>1</b>		<b>1</b>						<b>3</b>	
<b>Grand Total</b>	<b>33</b>	<b>2544</b>	<b>711</b>	<b>12</b>	<b>267</b>	<b>15</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>3625</b>
<b>Percent</b>	<b>0.9%</b>	<b>70.2%</b>	<b>19.6%</b>	<b>0.3%</b>	<b>7.4%</b>	<b>0.4%</b>	<b>0.0%</b>	<b>0.6%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.6%</b>	

COUNTY OF SONOMA  
ST. HELENA RD. E/O CALISTOGA RD.

Site Code: 1EB  
st helena 1

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/09/15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
04:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
05:00	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
06:00	0	10	1	0	1	0	0	0	0	0	0	0	0	0	12
07:00	0	27	10	0	3	0	0	0	0	0	0	0	0	0	40
08:00	1	31	3	0	5	0	0	0	0	0	0	0	0	1	41
09:00	0	22	5	0	4	0	0	1	0	0	0	0	0	0	32
10:00	1	29	10	0	4	0	0	0	0	0	0	0	0	0	44
11:00	3	22	3	0	3	0	0	0	0	0	0	0	0	0	31
12 PM	1	42	9	1	3	0	0	0	0	0	0	0	0	0	56
13:00	0	23	10	0	2	0	0	1	0	0	0	0	0	0	36
14:00	0	37	9	0	3	1	0	0	0	0	0	0	0	0	50
15:00	0	20	14	0	8	0	0	0	0	0	0	0	0	0	42
16:00	0	31	15	1	3	0	0	0	0	0	0	0	0	0	50
17:00	0	44	8	0	5	0	0	0	0	0	0	0	0	0	57
18:00	0	29	5	0	1	1	0	0	0	0	0	0	0	0	36
19:00	0	9	1	0	0	0	0	0	0	0	0	0	0	0	10
20:00	0	5	2	0	1	0	0	0	0	0	0	0	0	0	8
21:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
22:00	0	3	0	0	1	0	0	0	0	0	0	0	0	0	4
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
<b>Total</b>	<b>6</b>	<b>399</b>	<b>109</b>	<b>2</b>	<b>49</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>570</b>
<b>Percent</b>	<b>1.1%</b>	<b>70.0%</b>	<b>19.1%</b>	<b>0.4%</b>	<b>8.6%</b>	<b>0.4%</b>	<b>0.0%</b>	<b>0.4%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.2%</b>	
<b>AM Peak</b>	<b>11:00</b>	<b>08:00</b>	<b>07:00</b>		<b>08:00</b>			<b>09:00</b>						<b>08:00</b>	
<b>Vol.</b>	<b>3</b>	<b>31</b>	<b>10</b>		<b>5</b>			<b>1</b>						<b>1</b>	
<b>PM Peak</b>	<b>12:00</b>	<b>17:00</b>	<b>16:00</b>	<b>12:00</b>	<b>15:00</b>	<b>14:00</b>		<b>13:00</b>							
<b>Vol.</b>	<b>1</b>	<b>44</b>	<b>15</b>	<b>1</b>	<b>8</b>	<b>1</b>		<b>1</b>							

COUNTY OF SONOMA  
ST. HELENA RD. E/O CALISTOGA RD.

Site Code: 1EB  
st helena 1

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/10/15	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
06:00	0	9	3	0	2	0	0	0	0	0	0	0	0	0	14
07:00	1	27	3	0	3	0	0	0	0	0	0	0	0	0	34
08:00	0	36	8	0	3	1	0	1	0	0	0	0	0	1	50
09:00	3	33	6	0	1	1	0	0	0	0	0	0	0	0	44
10:00	0	19	5	0	1	0	0	0	0	0	0	0	0	0	25
11:00	0	26	4	0	4	0	0	0	0	0	0	0	0	0	34
12 PM	1	21	5	1	3	0	0	0	0	0	0	0	0	0	31
13:00	0	30	6	0	3	0	0	0	0	0	0	0	0	0	39
14:00	1	18	9	0	1	0	0	1	0	0	0	0	0	0	30
15:00	0	25	18	1	7	1	0	0	1	0	0	0	0	0	53
16:00	0	41	13	0	4	2	0	2	0	0	0	0	0	0	62
17:00	1	52	7	0	2	0	0	0	0	0	0	0	0	0	62
18:00	0	24	8	0	2	0	0	0	0	0	0	0	0	0	34
19:00	0	10	3	0	1	1	0	0	0	0	0	0	0	0	15
20:00	1	11	0	0	1	0	0	0	0	0	0	0	0	0	13
21:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	8	0	0	1	0	0	0	0	0	0	0	0	0	9
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>8</b>	<b>408</b>	<b>100</b>	<b>2</b>	<b>40</b>	<b>6</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>570</b>
<b>Percent</b>	<b>1.4%</b>	<b>71.6%</b>	<b>17.5%</b>	<b>0.4%</b>	<b>7.0%</b>	<b>1.1%</b>	<b>0.0%</b>	<b>0.7%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.2%</b>	
<b>AM Peak</b>	<b>09:00</b>	<b>08:00</b>	<b>08:00</b>		<b>11:00</b>	<b>08:00</b>		<b>08:00</b>						<b>08:00</b>	
<b>Vol.</b>	<b>3</b>	<b>36</b>	<b>8</b>		<b>4</b>	<b>1</b>		<b>1</b>						<b>1</b>	
<b>PM Peak</b>	<b>12:00</b>	<b>17:00</b>	<b>15:00</b>	<b>12:00</b>	<b>15:00</b>	<b>16:00</b>		<b>16:00</b>		<b>15:00</b>					
<b>Vol.</b>	<b>1</b>	<b>52</b>	<b>18</b>	<b>1</b>	<b>7</b>	<b>2</b>		<b>2</b>		<b>1</b>					

COUNTY OF SONOMA  
ST. HELENA RD. E/O CALISTOGA RD.

Site Code: 1EB  
st helena 1

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/11/15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	3	1	0	2	0	0	0	0	0	0	0	0	0	6
06:00	0	3	0	0	2	0	0	0	0	0	0	0	0	0	5
07:00	0	31	10	0	4	0	0	0	0	0	0	0	0	0	45
08:00	0	22	7	1	2	0	0	0	0	0	0	0	0	0	32
09:00	0	22	9	0	2	1	0	1	0	0	0	0	0	0	35
10:00	0	23	4	0	4	0	0	0	0	0	0	0	0	2	33
11:00	1	24	4	0	2	1	0	0	0	0	0	0	0	0	32
12 PM	0	28	7	1	4	0	0	0	0	0	0	0	0	0	40
13:00	1	26	7	0	4	0	0	0	0	0	0	0	0	0	38
14:00	0	30	7	0	2	0	0	1	0	0	0	0	0	0	40
15:00	1	35	20	0	5	0	0	0	1	0	0	0	0	1	62
16:00	0	39	17	0	6	0	0	0	1	0	0	0	0	0	63
17:00	1	64	8	0	3	0	0	0	0	0	0	0	0	0	76
18:00	1	44	5	1	1	0	0	0	0	0	0	0	0	0	52
19:00	0	12	3	0	2	0	0	1	0	0	0	0	0	0	18
20:00	0	16	4	0	0	0	0	0	0	0	0	0	0	0	20
21:00	1	5	0	0	1	0	0	0	0	0	0	0	0	0	7
22:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
23:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
<b>Total</b>	<b>6</b>	<b>439</b>	<b>117</b>	<b>3</b>	<b>46</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>620</b>
<b>Percent</b>	<b>1.0%</b>	<b>70.8%</b>	<b>18.9%</b>	<b>0.5%</b>	<b>7.4%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>0.6%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.5%</b>	
<b>AM Peak</b>	<b>11:00</b>	<b>07:00</b>	<b>07:00</b>	<b>08:00</b>	<b>07:00</b>	<b>09:00</b>		<b>09:00</b>						<b>10:00</b>	
<b>Vol.</b>	<b>1</b>	<b>31</b>	<b>10</b>	<b>1</b>	<b>4</b>	<b>1</b>		<b>1</b>						<b>2</b>	
<b>PM Peak</b>	<b>13:00</b>	<b>17:00</b>	<b>15:00</b>	<b>12:00</b>	<b>16:00</b>			<b>14:00</b>						<b>15:00</b>	
<b>Vol.</b>	<b>1</b>	<b>64</b>	<b>20</b>	<b>1</b>	<b>6</b>			<b>1</b>						<b>1</b>	

COUNTY OF SONOMA  
ST. HELENA RD. E/O CALISTOGA RD.

Site Code: 1EB  
st helena 1

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/12/15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
06:00	0	7	1	0	1	0	0	0	0	0	0	0	0	0	9
07:00	0	11	3	0	1	0	0	0	0	0	0	0	0	1	16
08:00	0	15	8	0	1	0	0	0	0	0	0	0	0	0	24
09:00	0	30	7	0	4	0	0	0	0	0	0	0	0	0	41
10:00	1	22	1	0	1	2	0	0	0	0	0	0	0	0	27
11:00	0	23	7	0	3	0	0	1	0	0	0	0	0	0	34
12 PM	0	27	6	0	2	1	0	0	0	0	0	0	0	0	36
13:00	0	34	9	0	2	0	0	0	0	0	0	0	0	0	45
14:00	0	22	8	0	0	0	0	0	0	0	0	0	0	0	30
15:00	1	33	8	0	2	0	0	0	0	0	0	0	0	0	44
16:00	1	36	3	0	1	0	0	0	0	0	0	0	0	0	41
17:00	0	31	9	0	1	0	0	1	0	0	0	0	0	1	43
18:00	2	27	5	0	2	0	0	0	0	0	0	0	0	0	36
19:00	1	15	1	1	0	0	0	0	0	0	0	0	0	0	18
20:00	0	15	1	0	0	0	0	0	0	0	0	0	0	0	16
21:00	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11
22:00	0	11	2	0	0	0	0	0	0	0	0	0	0	0	13
23:00	0	9	1	0	0	0	0	0	0	0	0	0	0	0	10
Total	6	382	82	1	24	3	0	2	0	0	0	0	0	2	502
Percent	1.2%	76.1%	16.3%	0.2%	4.8%	0.6%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	
AM Peak	10:00	09:00	08:00		09:00	10:00		11:00							07:00
Vol.	1	30	8		4	2		1							1
PM Peak	18:00	16:00	13:00	19:00	12:00	12:00		17:00							17:00
Vol.	2	36	9	1	2	1		1							1

COUNTY OF SONOMA  
ST. HELENA RD. E/O CALISTOGA RD.

Site Code: 1EB  
st helena 1

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/13/15	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
07:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
08:00	0	14	1	0	0	0	0	0	0	0	0	0	0	0	15
09:00	0	20	1	0	2	1	0	1	0	0	0	0	0	0	25
10:00	0	19	2	0	2	0	0	0	0	0	0	0	0	0	23
11:00	0	23	5	0	1	0	0	0	0	0	0	0	0	0	29
12 PM	0	21	5	0	1	0	0	0	0	0	0	0	0	0	27
13:00	0	26	6	0	1	0	0	0	0	0	0	0	0	0	33
14:00	2	32	10	0	1	0	0	0	0	0	0	0	0	0	45
15:00	2	16	1	0	0	0	0	0	0	0	0	0	0	0	19
16:00	0	23	7	0	0	0	0	1	0	0	0	0	0	0	31
17:00	1	31	1	0	2	0	0	0	0	0	0	0	0	0	35
18:00	0	21	3	0	0	0	0	1	0	0	0	0	0	0	25
19:00	0	7	2	1	1	0	0	0	0	0	0	0	0	0	11
20:00	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
21:00	0	4	1	0	2	0	0	0	0	0	0	0	0	0	7
22:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	5	293	48	1	13	1	0	3	0	0	0	0	0	0	364
Percent	1.4%	80.5%	13.2%	0.3%	3.6%	0.3%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	11:00		09:00	09:00		09:00							
Vol.		23	5		2	1		1							
PM Peak	14:00	14:00	14:00	19:00	17:00			16:00							
Vol.	2	32	10	1	2			1							



COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. SUMMIT TRAIL

Site Code: 2EB  
st helena 2

EASTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/09/15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
06:00	0	5	12	0	4	0	0	0	0	0	0	0	0	0	21
07:00	0	13	9	0	6	0	0	1	0	0	0	0	0	0	29
08:00	0	28	10	0	1	1	0	0	0	0	0	0	0	0	40
09:00	0	15	2	0	3	0	0	0	0	0	0	0	0	0	20
10:00	0	20	4	0	2	0	0	0	0	0	0	0	0	0	26
11:00	0	11	1	0	2	0	0	0	0	0	0	0	0	0	14
12 PM	0	12	6	0	1	1	0	0	0	0	0	0	0	0	20
13:00	0	17	6	0	3	0	0	0	0	0	0	0	0	0	26
14:00	0	9	3	0	0	0	0	1	0	0	0	0	0	0	13
15:00	0	14	2	0	2	0	0	0	0	0	0	0	0	0	18
16:00	0	10	2	0	1	0	0	0	0	0	0	0	0	0	13
17:00	0	8	0	0	1	0	0	0	0	0	0	0	0	1	10
18:00	0	5	0	0	1	0	0	0	0	0	0	0	0	0	6
19:00	0	7	4	0	0	0	0	0	0	0	0	0	0	0	11
20:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
21:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	194	66	0	27	2	0	2	0	0	0	0	0	1	292
Percent	0.0%	66.4%	22.6%	0.0%	9.2%	0.7%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	
AM Peak		08:00	06:00		07:00	08:00		07:00							
Vol.		28	12		6	1		1							
PM Peak		13:00	12:00		13:00	12:00		14:00						17:00	
Vol.		17	6		3	1		1						1	

COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. SUMMIT TRAIL

Site Code: 2EB  
st helena 2

EASTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/10/15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	10	1	0	0	0	0	0	0	0	0	0	0	0	11
06:00	0	10	8	0	4	0	0	0	0	0	0	0	0	0	22
07:00	0	17	6	0	7	0	0	0	0	0	0	0	0	0	30
08:00	1	36	5	0	6	0	0	0	0	0	0	0	0	0	48
09:00	1	16	5	0	3	1	0	0	0	0	0	0	0	1	27
10:00	1	11	3	0	4	0	0	0	0	0	0	0	0	0	19
11:00	0	9	10	0	1	0	0	0	0	0	0	0	0	0	20
12 PM	2	9	3	0	2	0	0	0	0	0	0	0	0	0	16
13:00	0	8	4	0	1	0	0	1	0	0	0	0	0	0	14
14:00	0	13	1	0	0	1	0	0	0	0	0	0	0	0	15
15:00	0	18	1	0	1	1	0	0	0	0	0	0	0	0	21
16:00	0	6	3	0	0	0	0	0	0	0	0	0	0	0	9
17:00	0	12	3	0	0	0	0	0	0	0	0	0	0	0	15
18:00	0	11	6	0	1	0	0	0	0	0	0	0	0	0	18
19:00	0	4	1	0	2	0	0	0	0	0	0	0	0	0	7
20:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
Total	5	199	63	0	34	3	0	1	0	0	0	0	0	1	306
Percent	1.6%	65.0%	20.6%	0.0%	11.1%	1.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	
AM Peak		08:00	08:00		07:00	09:00								09:00	
Vol.		1	36		7	1								1	
PM Peak		12:00	15:00		12:00	14:00		13:00							
Vol.		2	18		6	2		1							









COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. SUMMIT TRAIL

Site Code: 2EB  
st helena 2

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/10/15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
07:00	0	7	1	0	3	0	0	0	0	0	0	0	0	0	11
08:00	0	10	4	0	0	0	0	0	0	0	0	0	0	0	14
09:00	4	13	5	0	0	0	0	0	0	0	0	0	0	1	23
10:00	0	7	3	0	0	0	0	0	0	0	0	0	0	0	10
11:00	0	11	4	0	1	0	0	0	0	0	0	0	0	0	16
12 PM	1	14	3	0	2	0	0	1	0	0	0	0	0	0	21
13:00	0	15	3	0	2	0	0	0	0	0	0	0	0	0	20
14:00	1	7	5	0	2	1	0	0	0	0	0	0	0	0	16
15:00	0	12	10	0	4	2	0	1	0	0	0	0	0	1	30
16:00	0	30	9	0	5	2	0	1	0	1	0	0	0	0	48
17:00	1	38	6	0	1	0	0	0	0	0	0	0	0	0	46
18:00	0	14	3	0	3	0	0	0	0	0	0	0	0	1	21
19:00	0	6	1	0	1	1	0	0	0	0	0	0	0	0	9
20:00	0	6	1	0	1	0	0	0	0	0	0	0	0	0	8
21:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	7	197	61	0	27	6	0	3	0	1	0	0	0	3	305
Percent	2.3%	64.6%	20.0%	0.0%	8.9%	2.0%	0.0%	1.0%	0.0%	0.3%	0.0%	0.0%	0.0%	1.0%	
AM Peak	09:00	09:00	09:00		07:00										09:00
Vol.	4	13	5		3										1
PM Peak	12:00	17:00	15:00		16:00	15:00		12:00		16:00					15:00
Vol.	1	38	10		5	2		1		1					1

COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. SUMMIT TRAIL

Site Code: 2EB  
st helena 2

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/11/15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
07:00	0	7	2	0	3	0	0	0	0	0	0	0	0	0	12
08:00	0	8	2	0	0	0	0	0	0	0	0	0	0	0	10
09:00	0	7	8	0	1	0	0	0	0	0	0	0	0	0	16
10:00	0	9	2	0	2	0	0	0	0	0	0	0	0	0	13
11:00	1	8	3	0	0	0	0	0	0	0	0	0	0	3	15
12 PM	0	14	4	0	3	0	0	0	0	0	0	0	0	0	21
13:00	0	13	3	1	1	0	0	0	0	0	0	0	0	4	22
14:00	0	18	4	0	1	0	0	1	0	0	0	0	0	0	24
15:00	1	24	13	0	4	0	0	0	0	0	0	0	0	1	43
16:00	0	31	13	0	5	0	0	0	0	0	0	0	0	0	49
17:00	1	48	4	0	2	0	0	0	0	0	0	0	0	0	55
18:00	1	29	2	1	1	0	0	0	0	0	0	0	0	0	34
19:00	0	6	1	0	1	0	0	0	0	0	0	0	0	0	8
20:00	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
21:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
22:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
Total	4	238	65	2	26	0	0	1	0	0	0	0	0	8	344
Percent	1.2%	69.2%	18.9%	0.6%	7.6%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	
AM Peak	11:00	10:00	09:00		07:00										11:00
Vol.	1	9	8		3										3
PM Peak	15:00	17:00	15:00	13:00	16:00			14:00							13:00
Vol.	1	48	13	1	5			1							4



COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. SUMMIT TRAIL

Site Code: 2EB  
st helena 2

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/14/15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	2	0	1	0	0	0	0	0	0	0	0	0	3
07:00	1	8	3	0	1	0	0	1	0	0	0	0	0	1	15
08:00	0	3	2	0	1	0	0	0	0	0	0	0	0	1	7
09:00	0	8	5	0	0	0	0	0	0	0	0	0	0	0	13
10:00	0	10	1	0	2	0	0	1	0	0	0	0	0	0	14
11:00	0	9	3	0	3	0	0	0	0	0	0	0	0	0	15
12 PM	0	13	4	0	0	1	0	0	1	0	0	0	0	0	19
13:00	1	11	2	0	2	0	0	2	0	0	0	0	0	0	18
14:00	0	14	5	0	0	0	0	0	0	0	0	0	0	0	19
15:00	0	22	11	0	5	0	0	1	0	0	0	0	0	0	39
16:00	0	27	12	0	2	0	0	1	0	0	0	0	0	0	42
17:00	1	34	6	0	0	0	0	0	0	0	0	0	0	1	42
18:00	0	10	6	0	1	0	0	0	0	0	0	0	0	0	17
19:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
20:00	0	7	1	0	1	0	0	0	0	0	0	0	0	0	9
21:00	0	3	0	0	1	0	0	0	0	0	0	0	0	0	4
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>3</b>	<b>187</b>	<b>63</b>	<b>0</b>	<b>20</b>	<b>1</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>284</b>
<b>Percent</b>	<b>1.1%</b>	<b>65.8%</b>	<b>22.2%</b>	<b>0.0%</b>	<b>7.0%</b>	<b>0.4%</b>	<b>0.0%</b>	<b>2.1%</b>	<b>0.4%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>1.1%</b>	
<b>AM Peak</b>	<b>07:00</b>	<b>10:00</b>	<b>09:00</b>		<b>11:00</b>			<b>07:00</b>							<b>07:00</b>
<b>Vol.</b>	<b>1</b>	<b>10</b>	<b>5</b>		<b>3</b>			<b>1</b>							<b>1</b>
<b>PM Peak</b>	<b>13:00</b>	<b>17:00</b>	<b>16:00</b>		<b>15:00</b>	<b>12:00</b>		<b>13:00</b>	<b>12:00</b>						<b>17:00</b>
<b>Vol.</b>	<b>1</b>	<b>34</b>	<b>12</b>		<b>5</b>	<b>1</b>		<b>2</b>	<b>1</b>						<b>1</b>

COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. SUMMIT TRAIL

Site Code: 2EB  
st helena 2

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/15/15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
07:00	0	9	4	0	1	0	0	0	0	0	0	0	0	0	14
08:00	0	5	2	0	0	0	0	0	0	0	0	0	0	0	7
09:00	0	5	5	0	0	0	0	0	0	0	0	0	0	0	10
10:00	0	7	3	0	2	0	0	0	0	0	0	0	0	0	12
11:00	0	16	5	0	1	0	0	0	0	0	0	0	0	0	22
12 PM	0	13	6	0	2	0	0	0	0	0	0	0	0	0	21
13:00	0	13	3	0	1	0	0	0	0	0	0	0	0	0	17
14:00	1	20	15	0	2	0	0	0	0	0	0	0	0	1	39
15:00	0	17	15	0	3	0	0	0	0	0	0	0	0	0	35
16:00	0	24	14	0	2	0	0	0	0	0	0	0	0	0	40
17:00	0	38	14	0	4	0	0	0	0	0	0	0	0	0	56
18:00	0	17	8	0	0	0	0	0	0	0	0	0	0	0	25
19:00	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
20:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
21:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>1</b>	<b>211</b>	<b>96</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>328</b>
<b>Percent</b>	<b>0.3%</b>	<b>64.3%</b>	<b>29.3%</b>	<b>0.0%</b>	<b>5.8%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.3%</b>	
<b>AM Peak</b>		<b>11:00</b>	<b>09:00</b>		<b>10:00</b>										
<b>Vol.</b>		<b>16</b>	<b>5</b>		<b>2</b>										
<b>PM Peak</b>	<b>14:00</b>	<b>17:00</b>	<b>14:00</b>		<b>17:00</b>										<b>14:00</b>
<b>Vol.</b>	<b>1</b>	<b>38</b>	<b>15</b>		<b>4</b>										<b>1</b>
<b>Grand Total</b>	<b>30</b>	<b>1371</b>	<b>429</b>	<b>6</b>	<b>131</b>	<b>8</b>	<b>0</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>2007</b>
<b>Percent</b>	<b>1.5%</b>	<b>68.3%</b>	<b>21.4%</b>	<b>0.3%</b>	<b>6.5%</b>	<b>0.4%</b>	<b>0.0%</b>	<b>0.5%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>1.0%</b>	

COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. RD.

Site Code: 3  
st helena 3

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/09/15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	4	2	0	1	0	0	0	0	0	0	0	0	0	7
08:00	0	14	5	0	0	0	0	0	0	0	0	0	0	0	19
09:00	1	18	3	0	2	0	0	0	0	0	0	0	0	0	24
10:00	2	12	5	0	4	0	0	0	0	0	0	0	0	1	24
11:00	1	14	6	1	4	0	0	0	0	0	0	0	0	0	26
12 PM	0	13	6	0	3	0	0	0	0	0	0	0	0	0	22
13:00	0	10	5	0	2	0	0	0	0	0	0	0	0	0	17
14:00	0	20	3	0	3	0	0	0	0	0	0	0	0	0	26
15:00	0	12	10	0	7	0	0	0	0	0	0	0	0	0	29
16:00	0	25	9	1	3	0	0	0	0	0	0	0	0	0	38
17:00	0	31	5	0	0	0	0	0	0	0	0	0	0	0	36
18:00	0	18	2	0	0	0	0	0	0	0	0	0	0	0	20
19:00	0	4	0	0	1	0	0	0	0	0	0	0	0	0	5
20:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
21:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
22:00	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	4	206	62	2	31	0	0	0	0	0	0	0	0	1	306
Percent	1.3%	67.3%	20.3%	0.7%	10.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	
AM Peak	10:00	09:00	11:00	11:00	10:00										10:00
Vol.	2	18	6	1	4										1
PM Peak		17:00	15:00	16:00	15:00										
Vol.		31	10	1	7										

COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. RD.

Site Code: 3  
st helena 3

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/10/15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4
07:00	0	10	2	0	1	1	0	0	0	0	0	0	0	0	14
08:00	0	18	1	0	1	0	0	0	0	0	0	0	0	0	20
09:00	3	12	7	0	1	0	0	0	0	0	0	0	0	0	23
10:00	0	10	5	0	0	0	0	0	0	0	0	0	0	0	15
11:00	0	17	4	1	0	0	0	1	0	0	0	0	0	0	23
12 PM	1	19	1	0	3	0	0	1	0	0	0	0	0	2	27
13:00	1	16	3	0	2	0	0	0	0	0	0	0	0	1	23
14:00	0	13	6	0	4	0	0	0	0	0	0	0	0	0	23
15:00	0	17	12	0	7	0	0	1	0	0	0	0	0	0	37
16:00	0	33	10	0	5	0	0	0	0	0	0	0	0	2	51
17:00	1	34	2	0	0	0	0	0	0	0	0	0	0	0	37
18:00	1	11	3	0	4	0	0	0	0	0	0	0	0	1	20
19:00	0	4	1	0	1	0	0	0	0	0	0	0	0	0	6
20:00	0	5	1	0	0	0	0	0	0	0	0	0	0	2	8
21:00	0	1	3	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	7	225	63	1	31	1	0	3	0	1	0	0	0	8	340
Percent	2.1%	66.2%	18.5%	0.3%	9.1%	0.3%	0.0%	0.9%	0.0%	0.3%	0.0%	0.0%	0.0%	2.4%	
AM Peak	09:00	08:00	09:00	11:00	00:00	07:00		11:00							
Vol.	3	18	7	1	1	1		1							
PM Peak	12:00	17:00	15:00		15:00			12:00		15:00				12:00	
Vol.	1	34	12		7			1		1				2	



COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. RD.

Site Code: 3  
st helena 3

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/13/15	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
08:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
09:00	0	7	1	0	0	0	0	0	0	0	0	0	0	1	9
10:00	2	10	3	0	1	0	0	0	0	0	0	0	0	0	16
11:00	0	16	4	0	0	0	0	0	0	0	0	0	0	0	20
12 PM	0	17	5	0	2	0	0	0	0	0	0	0	0	0	24
13:00	2	12	4	0	1	0	0	0	0	0	0	0	0	0	19
14:00	4	17	1	0	1	0	0	0	0	0	0	0	0	2	25
15:00	0	17	2	0	1	0	0	0	0	0	0	0	0	2	22
16:00	0	9	1	0	0	0	0	0	0	0	0	0	0	0	10
17:00	1	20	1	0	0	0	0	0	0	0	0	0	0	0	22
18:00	0	8	1	0	0	0	0	0	0	0	0	0	0	1	10
19:00	0	2	0	1	0	0	0	0	0	0	0	0	0	0	3
20:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
21:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
22:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	9	158	26	1	7	0	0	0	0	0	0	0	0	6	207
Percent	4.3%	76.3%	12.6%	0.5%	3.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	
AM Peak	10:00	11:00	11:00		07:00										09:00
Vol.	2	16	4		1										1
PM Peak	14:00	17:00	12:00	19:00	12:00										14:00
Vol.	4	20	5	1	2										2

COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. RD.

Site Code: 3  
st helena 3

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/14/15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	3	2	0	1	0	0	0	0	0	0	0	0	0	6
07:00	0	8	2	0	1	0	0	1	0	0	0	0	0	0	12
08:00	0	10	5	0	1	0	0	0	0	0	0	0	0	0	16
09:00	0	10	5	0	2	0	0	0	0	0	0	0	0	0	17
10:00	0	11	5	1	1	0	0	2	0	0	0	0	0	0	20
11:00	0	11	2	0	3	0	0	0	0	0	0	0	0	1	17
12 PM	0	14	2	0	1	0	0	0	1	0	0	0	0	0	18
13:00	1	14	5	0	1	1	0	2	0	0	0	0	0	1	25
14:00	1	18	6	0	2	0	0	1	0	0	0	0	0	1	29
15:00	0	15	12	0	4	0	0	1	0	0	0	0	0	1	33
16:00	0	24	10	0	3	0	0	0	0	0	0	0	0	2	39
17:00	1	30	6	0	0	0	0	0	0	0	0	0	0	0	37
18:00	0	9	4	0	1	0	0	0	0	0	0	0	0	0	14
19:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
20:00	0	5	0	0	2	0	0	0	0	0	0	0	0	0	7
21:00	0	4	0	0	1	0	0	0	0	0	0	0	0	0	5
22:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	192	67	1	24	1	0	7	1	0	0	0	0	6	302
Percent	1.0%	63.6%	22.2%	0.3%	7.9%	0.3%	0.0%	2.3%	0.3%	0.0%	0.0%	0.0%	0.0%	2.0%	
AM Peak		10:00	08:00	10:00	11:00			10:00							11:00
Vol.		11	5	1	3			2							1
PM Peak	13:00	17:00	15:00		15:00	13:00		13:00	12:00						16:00
Vol.	1	30	12		4	1		2	1						2

COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. RD.

Site Code: 3  
st helena 3

WESTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/15/15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	1	0	0	0	0	1	0	0	0	0	0	0	3
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	6	3	0	2	0	0	0	0	0	0	0	0	0	11
08:00	0	6	2	0	2	0	0	0	0	0	0	0	0	0	10
09:00	0	3	4	0	0	0	0	0	0	0	0	0	0	0	7
10:00	0	9	4	0	2	0	0	0	0	0	0	0	0	0	15
11:00	0	17	5	0	2	0	0	0	0	0	0	0	0	0	24
12 PM	0	10	3	0	2	0	0	1	0	0	0	0	0	0	16
13:00	0	9	5	0	0	1	0	1	0	0	0	0	0	2	18
14:00	0	14	10	0	3	0	0	0	0	0	0	0	0	0	27
15:00	0	19	19	0	5	0	0	0	0	0	0	0	0	0	43
16:00	0	27	14	0	5	0	0	1	0	0	0	0	0	0	47
17:00	0	35	6	1	2	0	0	0	0	0	0	0	0	1	45
18:00	1	11	7	0	0	0	0	0	0	0	0	0	0	0	19
19:00	0	8	1	0	0	0	0	0	0	0	0	0	0	0	9
20:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
21:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>1</b>	<b>188</b>	<b>86</b>	<b>1</b>	<b>25</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>309</b>
<b>Percent</b>	<b>0.3%</b>	<b>60.8%</b>	<b>27.8%</b>	<b>0.3%</b>	<b>8.1%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>1.3%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>1.0%</b>	
<b>AM Peak</b>		<b>11:00</b>	<b>11:00</b>		<b>07:00</b>			<b>03:00</b>							
<b>Vol.</b>		<b>17</b>	<b>5</b>		<b>2</b>			<b>1</b>							
<b>PM Peak</b>	<b>18:00</b>	<b>17:00</b>	<b>15:00</b>	<b>17:00</b>	<b>15:00</b>	<b>13:00</b>		<b>12:00</b>						<b>13:00</b>	
<b>Vol.</b>	<b>1</b>	<b>35</b>	<b>19</b>	<b>1</b>	<b>5</b>	<b>1</b>		<b>1</b>						<b>2</b>	
<b>Grand Total</b>	<b>35</b>	<b>1448</b>	<b>426</b>	<b>10</b>	<b>155</b>	<b>5</b>	<b>0</b>	<b>16</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>37</b>	<b>2134</b>
<b>Percent</b>	<b>1.6%</b>	<b>67.9%</b>	<b>20.0%</b>	<b>0.5%</b>	<b>7.3%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>0.7%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>1.7%</b>	

COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. RD.

Site Code: 3  
st helena 3

EASTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/09/15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
05:00	0	2	1	0	0	0	0	0	0	0	0	0	0	1	4
06:00	0	4	10	0	3	0	0	0	0	0	0	0	0	0	17
07:00	0	14	10	0	7	0	0	0	0	0	0	0	0	1	32
08:00	0	26	10	0	1	1	0	0	0	0	0	0	0	1	39
09:00	1	17	1	0	2	0	0	0	0	0	0	0	0	1	22
10:00	2	17	2	0	3	0	1	0	0	0	0	0	0	1	26
11:00	1	15	3	0	2	0	0	0	0	0	0	0	0	1	22
12 PM	0	12	5	0	3	0	0	0	0	0	0	0	0	0	20
13:00	0	17	4	0	3	0	0	0	0	0	0	0	0	1	25
14:00	0	17	3	0	0	0	0	1	0	0	0	0	0	0	21
15:00	0	16	2	0	1	0	0	0	0	0	0	0	0	0	19
16:00	0	15	4	0	0	0	0	0	0	0	0	0	0	0	19
17:00	0	12	1	0	1	0	0	0	0	0	0	0	0	2	16
18:00	0	4	2	0	1	0	0	0	0	0	0	0	0	2	9
19:00	0	3	1	0	1	0	0	0	0	0	0	0	0	1	6
20:00	0	2	0	0	0	0	0	0	0	0	0	0	0	1	3
21:00	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
<b>Total</b>	<b>4</b>	<b>205</b>	<b>60</b>	<b>0</b>	<b>29</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>315</b>
<b>Percent</b>	<b>1.3%</b>	<b>65.1%</b>	<b>19.0%</b>	<b>0.0%</b>	<b>9.2%</b>	<b>0.3%</b>	<b>0.3%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>4.4%</b>	
<b>AM Peak</b>	<b>10:00</b>	<b>08:00</b>	<b>06:00</b>		<b>07:00</b>	<b>08:00</b>		<b>10:00</b>						<b>01:00</b>	
<b>Vol.</b>	<b>2</b>	<b>26</b>	<b>10</b>		<b>7</b>	<b>1</b>		<b>1</b>						<b>1</b>	
<b>PM Peak</b>		<b>13:00</b>	<b>12:00</b>		<b>12:00</b>			<b>14:00</b>						<b>17:00</b>	
<b>Vol.</b>		<b>17</b>	<b>5</b>		<b>3</b>			<b>1</b>						<b>2</b>	

COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. RD.

Site Code: 3  
st helena 3

EASTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/10/15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	3
06:00	0	9	7	0	4	0	0	0	0	0	0	0	0	0	20
07:00	0	14	8	0	6	0	0	0	0	0	0	0	0	0	5
08:00	0	31	5	0	4	0	0	0	0	0	0	0	0	0	33
09:00	3	15	1	0	2	0	0	0	0	0	0	0	0	0	23
10:00	0	12	5	0	4	0	0	0	0	0	0	0	0	0	23
11:00	0	9	9	0	1	0	0	0	0	0	0	0	0	0	21
12 PM	1	20	1	0	0	0	0	0	0	0	0	0	0	0	30
13:00	1	17	5	0	2	0	0	1	0	0	0	0	0	0	27
14:00	0	19	1	0	0	0	0	0	0	0	0	0	0	0	20
15:00	0	23	1	0	1	0	0	0	0	0	0	0	0	0	26
16:00	1	10	6	0	0	0	0	0	0	0	0	0	0	0	17
17:00	0	19	4	0	0	0	0	0	0	0	0	0	0	0	26
18:00	0	9	4	0	1	0	0	0	0	0	0	0	0	0	18
19:00	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	6	221	59	0	29	0	0	1	0	0	0	0	0	0	35
Percent	1.7%	63.0%	16.8%	0.0%	8.3%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	10.0%
AM Peak	09:00	08:00	11:00		07:00										07:00
Vol.	3	31	9		6										5
PM Peak	12:00	15:00	16:00		13:00			13:00							12:00
Vol.	1	23	6		2			1							8

COUNTY OF SONOMA  
ST. HELENA RD. W/O SPRING MTN. RD.

Site Code: 3  
st helena 3

EASTBOUND

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classified	Total
09/11/15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
05:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
06:00	0	12	7	0	2	0	0	0	0	0	0	0	0	0	21
07:00	0	23	3	0	7	0	0	1	0	0	0	0	0	0	35
08:00	0	25	1	0	2	0	0	0	0	0	0	0	0	0	32
09:00	0	16	3	1	1	1	0	0	0	0	0	0	0	0	24
10:00	0	14	3	0	1	1	0	0	0	0	0	0	0	0	21
11:00	0	17	5	0	1	0	0	0	0	0	0	0	0	0	26
12 PM	0	14	3	1	1	0	0	0	0	0	0	0	0	0	25
13:00	0	15	4	0	2	0	0	0	0	0	0	0	0	0	21
14:00	1	14	2	0	2	0	0	1	0	0	0	0	0	0	24
15:00	0	18	3	1	2	0	0	0	0	0	0	0	0	0	24
16:00	0	21	4	0	1	0	0	0	0	0	0	0	0	0	26
17:00	0	14	6	1	0	0	0	0	0	0	0	0	0	0	22
18:00	1	5	2	0	0	0	0	0	0	0	0	0	0	0	10
19:00	0	9	1	0	0	0	0	0	0	0	0	0	0	0	11
20:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
21:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3
22:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
23:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	2	236	48	4	23	2	0	2	0	0	0	0	0	0	27
Percent	0.6%	68.6%	14.0%	1.2%	6.7%	0.6%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.8%
AM Peak		08:00	06:00	09:00	07:00	09:00		07:00							08:00
Vol.		25	7	1	7	1		1							4
PM Peak	14:00	16:00	17:00	12:00	13:00			14:00							12:00
Vol.	1	21	6	1	2			1							6







# **APPENDIX E**

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## **Atterbury & Associates Letter**

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April 21, 2016  
Jn. 05-25

To Whom It May Concern,

My name is Tom Atterbury. I am a licensed California civil engineer. I graduated from CSU Chico in 1980 with a BS in civil engineering, and received my civil engineering license in 1983. I have worked as a civil engineer since then, and have my own company (Atterbury & Associates, Inc.) since 1990. I have been the engineer for the Cornell Winery project since its inception.

My career involves a wide range of civil engineering work, including designing wineries and other projects, and overseeing construction of such improvements. As a result, I am aware of the types and sizes of vehicles commonly associated with such projects. This letter addresses the sizes of the trucks which will be associated with the Cornell project, which I have previously communicated in connection with the addendum.

The Cornell project calls for trucks with a 10 cubic yards capacity to haul spoils, i.e., materials excavated and transported from the site during grading and construction activities. I am familiar with such trucks, which are almost always three axle (one front and two rear), with ten tires (two in front and four on each rear axle). These trucks do not exceed 30 feet in length and are usually closer to 21 or 22 feet long. This size truck was selected for the project to avoid placing longer double bed trucks on the road, while still working to minimize the number of trips. Having been around the wine industry during my career, I note this is the same size truck which is most commonly used to haul high end fruit such as that which a winery like Cornell's would utilize (smaller bins avoid squeezing juice during transport due to compression from weight and vibration during transport).

In excess of 90% of the trucks associated with the construction phase of the project (notably earthwork as stated above) will be these 3 axle/less than thirty foot trucks (which are all well within the traffic advisory). The remaining trucks will be mostly two axle (and less than 16 foot) and a very few (perhaps 1%) could be four axle/30foot trucks. It is possible there will be none of the last category; it is in the "unlikely, but not impossible" category. There are no trucks associated with the project which are sized in excess of the posted traffic advisory.

Sincerely,

REGISTERED PROFESSIONAL ENGINEER  
THOMAS W. ATTERBURY  
No. 37857  
Exp. 8-31-17  
STATE OF CALIFORNIA  
CIVIL ENGINEER

Thomas W. Atterbury, RCE