

SONOMA COUNTRY INN DRAFT ENVIRONMENTAL IMPACT REPORT

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1.0 INTRODUCTION

This Environmental Impact Report (EIR) assesses the potential environmental effects of the proposed *Sonoma Country Inn* project. This EIR has been prepared by the County of Sonoma pursuant to the California Environmental Quality Act (CEQA) of 1970, as amended. As required by Section 15165 of the California Environmental Quality Act Guidelines (*State CEQA Guidelines*), this EIR assesses the expected individual and cumulative environmental impacts resulting from approval, construction, and operation of the proposed project, and identifies means of minimizing potential adverse environmental impacts.

As provided in the *State CEQA Guidelines*, public agencies are charged with the duty to avoid or minimize environmental damage where feasible. In discharging this duty, the public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social issues. The EIR is an information document that informs decision-makers and the general public of the significant environmental effects of a proposed project. An EIR must identify possible means to minimize the significant effects and describe reasonable alternatives, to the project. The lead agency, in this case Sonoma County, is required to consider the information in the EIR along with any other available information in making its decision.

1.1 EIR REQUIREMENT

Consideration of the proposed *Sonoma County Inn* project by Sonoma County is a discretionary action which requires review in compliance with CEQA. On April 26, 2002 Sonoma County completed an Initial Study to confirm the need to prepare an EIR and preliminarily determine the topics for analysis in the EIR.¹ A copy of the Initial Study is in *Appendix 8.4*.² The Initial Study identified the following potentially significant impacts for evaluation:

x	Aesthetics	x	Hydrology / Water Quality
x	Agricultural Resources	x	Land Use and Planning
x	Biological Resources	x	Transportation / Traffic
x	Cultural Resources	x	Utilities / Service Systems
x	Geology / Soils		

Sonoma County also prepared a Notice of Preparation (NOP) in May 2002 and sent it to government agencies, special service districts, organizations, and individuals with an interest in or jurisdiction over the project in order to provide early consultation on the scope of the EIR. The NOP was sent May 2, 2002 and the comment period was until 30 days after receipt of the NOP. On May 14, 2002 the Permit and Resource Management Department conducted a public scoping meeting regarding this project.

¹ *Environmental Checklist Form Sonoma Country Inn*, County of Sonoma, April 26, 2002.

² Refer to the Initial Study for a complete analysis of impacts and mitigation measures for topic areas required by CEQA and not included in this focused EIR.

Comments and concerns raised by the responses to the NOP were taken into account in the EIR analyses. Based on public comments received during the scoping process the scope of the EIR was expanded to include two additional areas for evaluation, as follows:

- x Air Quality
- x Noise

Certain potential impacts were found to be insignificant. They either were not analyzed in the EIR or were selected for examination but, after analysis, determined to be insignificant. These conclusions are listed in *Section 7.4 Effects of No Significance*. *Appendix 8.5* describes comments raised during the NOP circulation period. The Appendix also cross-references comments to the appropriate section of the Draft EIR.

Many times during the scoping period and the subsequent review of an EIR, issues that relate to the merits of the proposed project itself, rather than physical environmental issues are raised. Project merit issues include issues that relate to the proposed project itself or the project's community benefits or consequences. As the Lead Agency, Sonoma County's review of both the environmental issues and project merits are important in the decision of what action to take on the *Sonoma Country Inn* project and both will be considered in the approval process for the project. However, as Lead Agency Sonoma County is only required to respond in its CEQA review to significant environmental issues that are raised.

The Draft EIR has been prepared in accordance with the California Environmental Quality Act, including the *CEQA Statutes* (Public Resources Code §§ 21000-21178.1), *State CEQA Guidelines*, and relevant court decisions.

1.2 EIR OBJECTIVITY

EIRs are information documents intended to:

- x Identify all potentially significant effects of a project on the physical environment
- x Determine the significance of impact
- x Assess the extent to which the significant effects could be reduced or avoided
- x Identify and evaluate feasible alternatives to the project

When an EIR determines that a project would result in significant impacts, agencies with authority over the project must take one or more of the following actions:

- x Require changes to the project which would avoid or substantially reduce significant impacts
- x Approve one of the project alternatives rather than the project
- x Adopt a written statement of overriding considerations which finds that specific economic, social, or other considerations make the EIR's mitigation measures or project alternative(s) infeasible.

This EIR is a factual objective public disclosure document which takes no position on the merits of the project but provides information on which decisions about the project can be based. The EIR has been prepared according to the professional standards and practices of the EIR consultants' individual disciplines and in conformance with the legal requirements and informational expectations of CEQA and the State and local guidelines to implement it. EIR authors are listed in *Appendix 8.1 Report Preparers*.

1.3 PUBLIC REVIEW AND COMMENT

Sonoma County will circulate this Draft EIR widely for review and comment by public agencies, interested individuals, and organizations and will accept comments in writing or orally at a public hearing held by the Sonoma County Planning Commission. Comments should address the adequacy and completeness of the EIR or contain questions about the environmental consequences of approving and implementing the project, not on the merits of the project itself. (The County will invite comments on the project itself as part of its normal public review process, separate from considering the EIR.) "Adequacy" refers to the EIR's completeness in disclosing significant environmental effects, identifying measures to mitigate those significant impacts, and providing sufficient information for officials to make decisions about the merits of the project. The *State CEQA Guidelines* direct EIRs to focus on a project's significant impacts and not to dwell on all conceivable less-than-significant effects, so that reports can be succinct disclosure documents and effective decision-making tools.

Written comments on the Draft EIR must be made before the close of the 45-day public review period and mailed to:

Melinda Grosch, Planner III
Permit and Resource Management Department
County of Sonoma
2550 Ventura Avenue
Santa Rosa, CA 95403

or delivered to the same address during normal business hours. The County Planning Commission will hold a public hearing on the Draft EIR at a formally noticed hearing.

A Final EIR will be prepared after the close of the public review period. The Final EIR will include all comments received by the County during the public review period and responses to those comments. The Final EIR will be distributed to the public and to public agencies commenting on the Draft EIR for review before the County considers certifying the Final EIR as complete.

No action can be taken to approve, conditionally approve, or deny the project until the Final EIR is certified. County acceptance of the EIR upon certification does not require approval of the project studied in the EIR.

In addition to preparation of the Final EIR a Mitigation Monitoring and Report Program (MMRP) will be prepared. California State Government Code Section 21081.6 (California Environmental Quality Act) requires a public agency to adopt a reporting or monitoring program when approving a project or changes to a project, in order to mitigate or avoid significant effects on the environment. The program is based on the findings and the required mitigation measures presented in the EIR that has been prepared on the project and certified by the lead agency. The reporting or monitoring program must be designed to ensure compliance during project implementation.

Per the guidelines, the MMRP must cover the following:

- x The MMRP must identify the entity that is responsible for each monitoring and reporting task, be it the County of Sonoma (as Lead Agency), other agency (Responsible or Trustee Agency), or a private entity (i.e., the project sponsor).
- x The MMRP must be based on the project description and the required mitigation measures presented in the environmental document prepared for the project and certified by the Lead Agency.

- x The MMRP must be approved by the Lead Agency at the same time of project entitlement action or approvals.

1.4 REPORT ORGANIZATION

After this *Introduction*, the EIR is organized as follows:

- x **Chapter 2.0 -- Summary of Findings**, highlights the important effects of implementing the project and identifies some of the measures available to mitigate significant adverse impacts.
- x **Chapter 3.0 -- Description of the Proposed Project**, describes the location of the project site, existing land uses on and in the vicinity of the project site, all aspects of the project as proposed, cumulative assumptions used throughout the analyses, and the approvals and permits required before the project could be implemented, if approved.
- x **Chapter 4.0 -- Consistency with Public Plans and Zoning** describes the consistency of the project with the *Sonoma County General Plan*, the *North Sonoma Valley Specific Plan*, and the *Sonoma County Zoning Ordinance*.
- x **Chapter 5.0 -- Environmental Setting, Impacts, and Mitigation Measures**, describes existing environmental conditions on the site and within the study area, identifies probable impacts from implementing the project, and describes mitigation measures required to substantially reduce or eliminate significant adverse impacts.
- x **Chapter 6.0 -- Alternatives to the Proposed Project**, describes and assesses the difference in outcome between the project and four alternatives, the mandatory "no project" alternative and three additional on-site alternatives -- an alternative consistent with the *Sonoma County General Plan* designation, a reduced inn with winery alternative and a reduced inn without winery alternative. This chapter also identifies an environmentally superior alternative among the alternatives.
- x **Chapter 7.0 -- Impact Overview**, discusses growth inducing and cumulative impacts, lists significant unavoidable impacts and effects of no significance, and discusses irreversible environmental changes of the project.
- x **Chapter 8.0 -- Appendices**, lists the report preparers and the people and organizations contacts, presents the bibliography, and includes technical background material supporting the EIR text.

1.5 INFORMATION USED TO PREPARE THE EIR

The *State CEQA Guidelines* permit any person, including the applicant, to submit information to assist in the preparation of an EIR but require independent review of the information to ensure that it accurately reflects the Lead Agency's judgment about the environmental impacts of the project. The EIR consultants conducted peer reviews of the background reports and documents submitted to the County as part of the project application. Applicant-prepared information was only used in the EIR after the validity of the data was verified and, where required, updated by the EIR consultants. Documents prepared by the applicant's consultants and examined in the EIR's environmental analyses are listed below, identified in the relevant report sections, and referenced in **Chapter 8.0 Appendices**.

- x *Sonoma Country Inn Project Description*, prepared for: Graywood Ranch LLC, Prepared by Common Ground Land Planning Services. The project description included a number of environmental studies including:

- à Letter report by The Geoservices Group dated September 17, 2000 re: Preliminary Geologic Evaluation Graywood Ranch Project, Kenwood, California.

This letter report summarizes the preliminary geologic evaluation for the project site's portion of the Graywood Ranch.

- à E.H. Boudreau, *Geology & Ground Water Potential of the Auberge Resorts Property*, October 3, 2000.

This report provides an overview of the geology of the project site and an evaluation of the groundwater potential.

- à E.H. Boudreau, *Geology and Ground Water Potential of a Portion of the St. Francis Vineyard Property*, April 30, 1997.

This report is a study of the groundwater potential of approximately 100 acres of the Graywood Ranch. This area was previously proposed to be planted as a vineyard.

- à Wetlands Research Associates, Inc., *Delineation of Potential Jurisdictional Wetlands Under Section 404 of the Clean Water Act, Graywood Ranch Project Site*, November 2000.

Wetlands Research Associates conducted a delineation study to describe the location and extent of waters, including wetlands, which may be considered jurisdictional by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act on the project site.

- à Wetlands Research Associates, Inc., *Gairdner's Yampah Survey on a Portion of Graywood Ranch*, November 2000.

This report presents the results of a survey for Gairdner's yampah on the project site. The survey was conducted on October 11, 2000.

- à Archaeological Resource Service, *A Cultural Resources Evaluation of the Auberge Resorts Project within the Graywood Ranch, Kenwood, Sonoma County, California*, September 5, 2000

This report presents the findings of Archaeological Resource Service's archaeological evaluation of the project site. This included both a literature search and a surface reconnaissance of all accessible parts of the project site.

- à Letter report by MacNair & Associates, dated December 13, 2000 re: Arboricultural Evaluation Preliminary Recommendations.

This is an evaluation to assess the general health and condition of the woodlands on the project site and to provide an estimate of the total number of trees growing on the project site.

- à TJKM Transportation Consultants, *Traffic Impact Study for Sonoma Country Inn*, January 19, 2001.

This report focuses on the project impact on two intersections on Highway 12 – the project’s main access road and at Lawndale Road.

- x *Amendment #1 to the Sonoma Country Inn Project*, Common Ground Land Planning Services, August 15, 2001. Amendment #1 included a number of environmental studies including:

- à Letter report by TJKM dated August 16, 2001, Additional Information, Traffic Impact Study for Sonoma Country Inn.

This report is a supplement to the traffic study completed in January 2001. This report adds traffic to be generated by the spa and restaurant, provides an analysis of the impact of traffic from special events from other wineries in the vicinity of the proposed project and discusses improvements for highway 12 that were envisioned in the *Sonoma County General Plan*.

- à Wetlands Research Associates, Inc., *Special Status Plant Survey of Graywood Ranch*, various reports dated May 2001, June 2001, and August 2001.

In response to a request of the California Department of Fish and Game Wetlands Research Associates conducted three additional rare plant surveys on the project site. The surveys were conducted April 11, 2001, June 1, 2001 and July 10, 2001.

- x *Addendum #2 to the Sonoma Country Inn Project*, Common Ground Land Planning Services, February 2002. Amendment #2 included a number of environmental studies including:

- à Letter report by The Geoservices Group dated January 24, 2002, Geological Review Building Envelopes for Lots 2, 3, 4, 8, and 9 Graywood Ranch Property Kenwood, California, and letter report by The Geoservices Group dated September 24, 2001 re: Geologic Review Proposed Inn and Access Road Sonoma Country Inn Evaluation Graywood Ranch Project, Kenwood, California.

The first letter report summarizes a geologic review of the proposed building envelope locations for lots 2, 3, 4, 8, and 9 on the project site; the second letter report summarizes a geologic review of the proposed inn and access road locations.

- à TJKM Transportation Consultants, *Final Traffic Impact Study for Sonoma Country Inn*, March 4, 2002.

This is an update of the previous traffic report and includes a discussion of short-term cumulative impacts (including the proposed Las Ventanas project) and year 2010 cumulative impacts.

- à Adobe Associates, Inc., *Sonoma Country Inn Addendum Two to the Project Description Design of Project Improvements*, undated.

This report provides information regarding specific design features (such as the access roadways, and the parking areas plus erosion and sediment control measures.

- à Adobe Associates, Inc., *Sonoma Country Inn Addendum Two to the Project Description Wastewater Treatment and Disposal*, undated.

This report is based on additional soils assessment work that was performed on the project site and the continued monitoring of seasonal depth to groundwater. This report also provides additional information regarding specific proposals for wastewater treatment and disposal.

- à Letter report by MacNair & Associates, dated February 22, 2002 re: Graywood Ranch – Tree Ordinance Compliance

This letter report evaluates compliance of the proposed project with the Sonoma County Tree Protection and Replacement Ordinance (No. 4014) and the Valley Oak Habitat Ordinance (No. 4991).

Other environmental studies include:

- x Various photomontages

The project applicant submitted various photomontages showing the project before and after development.

- x Adobe Associates, Inc. *Wastewater Treatment and Disposal System Feasibility Study for the Sonoma Country Inn*, June 14, 2001.

This study is an evaluation of options for the treatment and disposal of wastewater from the proposed project. The focus of the study is the wastewater generated by the inn and restaurant.

- x Adobe Associates, Inc., *Groundwater Study for the Sonoma Country Inn*, June 2, 2001.

This is a study of seasonal groundwater undertaken for the purpose of providing information to be used in the design of a private wastewater disposal system of portions of the proposed project. The study included long term monitoring and spot reading of seasonal depth to groundwater.

- x Archaeological Resource Service, *A Cultural Resources Evaluation of the Approximate 100-Acre Portion of the Graywood Ranch Located at 7935 Sonoma Highway, Kenwood, Sonoma County, California*, March 8, 2001.

This report presents the findings of Archaeological Resource Service's archaeological evaluation a portion of Graywood Ranch adjacent to the project site. This included both a literature search and a surface reconnaissance of all accessible parts of the study area.

- x Letter report from The Geoservices Group to Auberge Resorts, Geologic Studies for EIR Sonoma Country Inn (Graywood Ranch Property), Kenwood, California, June 19, 2002.

This letter transmits the data collected by The Geoservices Group during its supplemental geologic investigation in May and June 2002. The letter also summarizes The Geoservices Group's conclusions about the geologic conditions encountered during the supplemental exploration

- x Letter report from Ibis Environmental Services to Mr. Ed Nagel, Auberge Resorts, June 14, 2002.

This letter report describes the results of a site visit and four surveys at the project site regarding the possible presence of northern spotted owls, nesting raptors, California red-legged frogs, and foothill yellow-legged frogs.

- x Richard C. Slade & Associates LLC, Consulting Groundwater Geologists, *Results and Analysis of 48-Hour Constant Rate Pumping Test – Resort Well at Graywood Ranch*, December 2002.

This report describes the results of a pumping test conducted on the on-site “Resort Well” in September 2002.

- x Adobe Associates, Inc., *Revised On-Site Wastewater Disposal System Site Suitability Report*

This report describes the proposed on-site wastewater disposal system and analyses suitability of the site for the proposed wastewater disposal system. This report includes revised commercial wastewater application rates.

These documents are available for public review at the Sonoma County Permit and Resource Management Department, 2550 Ventura Avenue, Santa Rosa, California 95403.

Existing information was supplemented, as needed, by on- and off-site field observations and contacts with public agency representatives and other knowledgeable individuals. The *State CEQA Guidelines* permit EIRs to rely on secondary sources and do not require EIR preparers to undertake original research when sufficient existing data are available.

2.0 SUMMARY OF FINDINGS

This chapter summarizes the proposed project and alternatives considered in the EIR and provides a summary of the environmental impacts associated with the proposed project and mitigation measures.

2.1 PROPOSED PROJECT

Graywood Ranch LP has submitted an application to Sonoma County for approval to develop a 50-room inn, spa, restaurant, a winery and 11 residential lots on the southeastern 186 acres of the 476-acre Graywood Ranch.¹ The proposed project includes requests for a Lot Line Adjustment, *Sonoma County General Plan* amendment, *North Sonoma Valley Specific Plan* amendment, Zone Change, Major Subdivision, and Use Permit.

The use permit is proposed to allow:

- x A 50-room inn with accessory retail shops, administrative offices, meeting rooms, and swimming pool, including a main lodge building and 24 cottages, occupying approximately 85,000 square feet. The inn has a projected occupancy of 100 persons, 119 employees (average 55 on-site), and 102 parking spaces;
- x A spa, for guests and open to the public by reservation, in a separate spa building with eight individual treatment rooms in separate cottages, and several hot tubs and small pools. Parking is shared with the inn;
- x A restaurant with seating capacity of 75 inside and 50 outside (125 total seats), accessory lounge serving inn guests and open to the public by reservation. Parking is shared with the inn; and
- x A winery, open to the public, with annual production capacity of 10,000 cases, with tasting room, wine retail sales, events area, and a separate “country store” selling Sonoma County produce, food, and assorted gift items. The winery and accessory buildings would occupy approximately 40,000 square feet. The applicant proposes 30 special events per year with maximum 200-person attendance, to include weddings, meetings, winemaker dinners, and charitable auctions. Parking for the winery/events area consists of 147 spaces, and includes parking for visitors, inn and winery area employees, and public trail parking.

Eleven residential lots are proposed. Ten of the residential lots range in size from 2.6 acres to 6.4 acres with the eleventh lot being 71.2 acres. For each of the residential lots a building envelope and leachfield site has been designated. The majority of the building envelopes are approximately 15,000 to 20,000 square feet (0.34 to 0.46 acre) in size.

¹ Mr. Lendal Gray owns the remaining portion of the Graywood Ranch (approximately 290 acres). A separate residential project (Graywood Ranch Subdivision) is proposed for that portion of Graywood Ranch.

2.2 SIGNIFICANT IMPACTS AND MITIGATION MEASURES

This section presents a complete summary of the environmental impacts discussed in this EIR and detailed in *Chapter 5.0 Environmental Setting, Impacts, and Mitigation Measures*. The following levels of significance are used to identify impacts in this section and elsewhere in the EIR:

- x **Significant Impact** -- an adverse change in the environment, where the change exceeds a specific significance threshold. These thresholds are described under the "Significance Criteria" in sections 5.1 to 5.11.
- x **Significant Unavoidable Impact** -- a significant impact which cannot be avoided with mitigation. These include impacts which could be partly mitigated but could not be reduced to a less-than-significant level.
- x **Potentially Significant Impact** -- a significant adverse change in the environment that could feasibly be expected to occur, but that is not absolutely certain of occurring.
- x **Less-than-Significant Impact** -- a change in the environment that does not exceed specific significance thresholds, or no change at all.

Exhibit 2.2-1 shows a summary of impacts and the significance of the impacts before and after mitigation.

**Exhibit 2.2-1
Summary of Findings**

Impact (SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)	Signif Before Mit.	Mitigation	Signif After Mit
Land Use			
<i>Impact 5.1-1 Conflict with Applicable Land Use Plan, Policy, or Regulation</i> Implementation of the proposed project would result in potential conflicts with the Sonoma County General Plan and North Sonoma Valley Specific Plan resulting in adverse land use, traffic and circulation, biological resources and visual and aesthetic quality physical effects.	S	Mitigation measures are recommended in the relevant sections of the EIR to mitigate the adverse physical effects resulting from the conflict with relevant applicable land use plans.	SU
<i>Impact 5.1-2 Agricultural Lands</i> Implementation of the proposed project would not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.	LTS	No mitigation would be required.	LTS
<i>Impact 5.1-3 Compatibility with Adjacent Private Airstrip</i> The introduction of new uses (especially the proposed inn/spa/restaurant and winery uses) on the project site could result in conflicts with the adjacent airstrip.	S	(1) Documentation of the agreement between the airstrip owner and the owner of the Sonoma Country Inn project shall be provided to the Permit and Resource Management Department. (2) Signage shall be posted on the access road, in both directions before reaching the airstrip, to warn visitors and others that a low-flying airplane may be taking off or landing from/on the airstrip.	LTS
<i>Impact 5.1-4 Compatibility with Adjacent Land Uses</i> Use of the project site for visitor-serving uses plus residential uses could introduce uses on the site incompatible with adjacent agricultural use which may result in urban-rural conflicts. Potential conflicts at the interface of agricultural and non-agricultural lands would be a significant impact.	S	(1) A note shall be placed on the tentative map and the final map as follows: à Agricultural uses occur in this area and pesticide applications, dust, odor and other nuisances associated with agricultural activities may occur. (2) A Right to Farm declaration shall be recorded on the property to notify prospective buyers that at the time of hire employees and at the time of check in guests at the Sonoma Country Inn shall be provided notification as follows: à The Sonoma Country Inn is located adjacent to agricultural lands and pesticide applications, dust, odor another nuisances associated with agricultural activities may occur. (3) A 100-foot agricultural setback shall be established and maintained on the east side of Parcel B (the inn parcel) and the south side of residential lot 8. The setbacks shall be shown on the final map.	LTS
<i>Impact 5.1-5 Cumulative Compatibility with Adjacent Land Uses Impacts</i> Cumulative projects within the area could result in increased conflicts with agricultural uses. The project's contribution to the cumulative impacts would not be cumulatively considerable and therefore this cumulative impact would be less-than-significant.	LTS	No mitigation would be required.	LTS

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<i>Impact 5.1-6 Growth Inducing Impacts</i> Development of the Sonoma Country Inn project would not remove obstacles to growth, would not set a precedent for similar future projects, nor lead to enlarged public services.	LTS	No mitigation would be required.	LTS
Traffic and Circulation			
<i>Impact 5.2-1 2005 Intersection Operation with Project and No Special Events</i> Year 2005 base case-plus-project volumes would result in five seconds or more increase in average control delay for critical movements at the SR 12 intersections with Adobe Canyon Road and Randolph Avenue where base case conditions are at LOS F.	S	In addition to Roadway Improvement Fund fees required by Article 98 of the Sonoma County Zoning Ordinance, the project applicant shall pay the project's fair share contribution of the following measures: (1) Remove the 90-degree parking adjacent to the Fire Station on the east side of Randolph Avenue and widen to provide a second northbound approach lane to SR 12. (2) Widen Adobe Canyon Road and stripe to improve and clearly separate the two southbound approach lanes to SR 12. Even with these improvements the northbound left turn movement at Randolph Avenue and the southbound left turn movement at Adobe Canyon Road would continue to operate unacceptably (at LOS F), but average control delay for respective right turns would be improved. or (1) Signalize the SR 12 intersections with Randolph Avenue and Adobe Canyon Road when warranted.	SU
<i>Impact 5.2-2 2012 Intersection Operation with Project and No Special Events</i> The project traffic contribution to cumulative (year 2012 plus project) traffic volumes would result in five seconds or more increase in average control delay for critical movements at the SR 12 intersections with Adobe Canyon Road and Randolph Avenue where base case conditions are at LOS F. This would be a significant cumulative impact. The project traffic contribution to year 2012 cumulative volumes at the SR 12/Randolph Avenue intersection would add to Friday AM peak hour approach volumes meeting rural signal warrant levels. This would be a significant cumulative safety impact.	S	Same as Mitigation Measure 5.2-1.	SU

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.2-3 Roadway Operation with Proposed Project and No Special Events</i></p> <p>Year 2005 and 2012 base case plus project volumes would result in maintaining LOS E roadway operation for all analyzed roadway segments during all analyzed time periods. The project's contribution would not result in a decrease in average vehicle speeds by 1.0 mile per hour or greater on any roadway segment.</p>	LTS	No mitigation would be required.	LTS
<p><i>Impact 5.2-4 2005 Intersection Operation with Proposed Project and Average Size Special Event</i></p> <p>Year 2005 base case-plus-project-plus-project with average size special event traffic would increase average control delay for a critical movement by more than five seconds at the SR 12 intersection with Adobe Canyon Road where the base case-plus-project condition is LOS F.</p>	S	For SR12/Adobe Canyon Road mitigation would be the same as Mitigation Measure 5.2-1(a)(1) and 5.2-1(b).	SU
<p><i>Impact 5.2-5 2012 Intersection Operation with Proposed Project and Average Size Special Event</i></p> <p>The project increment (project average size special event traffic) of cumulative condition (year 2012-plus-project with average size special event traffic) would increase average control delay for critical movements by more than five seconds at the SR 12 intersections with Lawndale Road, Adobe Canyon Road and Randolph Avenue where base case conditions are at LOS F. This would be a significant cumulative impact.</p>	S	<p>For SR12/Adobe Canyon Road and SR 12/Randolph Avenue mitigation would be the same as Mitigation Measure 5.2-1(a) and 5.2-1(b).</p> <p>For SR 12/Lawndale Road: Widen Lawndale Road to provide a second northbound approach lane to SR 12 or signalize SR 12 / Lawndale when warranted.</p>	SU
<p><i>Impact 5.2-6 Roadway Operation with Proposed Project and Average Size Event</i></p> <p>Year 2005 and 2012 base case plus project plus project average size special event volumes would result in maintaining LOS E operation for all analyzed roadway segments during all analyzed time periods. The project's contribution would not result in a decrease in average vehicle speeds by 1.0 mile per hour or greater.</p>	LTS	No mitigation would be required.	LTS
<p><i>Impact 5.2-7 Left Turn Lane Storage Demand on the Eastbound SR 12 Approach to the Project Access Road.</i></p> <p>The project's proposed 375 foot long left turn lane on the SR 12 eastbound approach to the project access road would be adequate to accommodate project-plus-project with average size special event storage demand.</p>	LTS	No mitigation would be required.	LTS

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.2-8 SR 12 Operating Conditions with Cumulative Average Size Special Events</i></p> <p>Cumulative event traffic volumes would result in significant additional delays at the Randolph Avenue, Adobe Canyon Road, and Lawndale Road SR12 intersections operating at LOS F. This would be a cumulative significant impact. The project impact would be cumulatively considerable.</p>	<p>S</p>	<p>Installation of traffic signals at the Randolph Avenue, Adobe Canyon Road and Lawndale Road intersections would reduce the cumulative impact at these intersections to less-than-significant. However, signal installation may not be a feasible mitigation due to lack of funding, and because Caltrans may not conclude that signals are warranted. The County may wish to consider the following mitigation measures as a way to minimize cumulative impacts to SR 12 operating conditions due to special event traffic.</p> <p>(a) Until the events coordination program in Mitigation Measure 5.2-8(b) is established, the project’s proposed 30 annual events shall be restricted to weekdays (Monday –Friday during non-peak traffic hours) and/or non-timed events such as food and wine pairings on the site. Weddings, banquets, auctions, concerts and other time-specific events would only be permitted on Monday-Friday during non-peak traffic hours.</p> <p>(b) Establish a program to allocate days and times of special event operation for future use permit applicants. The applicant shall contribute a fair share towards the cost of establishing and maintaining the program. The program may be established by the County or at the County’s direction, and may include but not be limited to the following parameters:</p> <ol style="list-style-type: none"> (1) Develop a database of dates, times, attendance and volume of traffic (inbound and outbound-by hour) for currently-permitted events; (2) Determine the traffic capacity of State Highway 12 and other affected roadways in the vicinity during currently-permitted events and the amount of remaining capacity (if any) available for future events; (3) Establish the boundaries (e.g., the two-lane section of SR 12) where the program would apply; (4) Define performance standards (e.g., acceptable traffic levels, possibly varying by season and/or day of week and/or time of day) for the program. (5) Designate an Events Coordinator to administer the program. (6) Allocate the number, attendance, and times of newly-permitted events and monitor to ensure performance standards are met. 	<p>SU</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.2-8 SR 12 Operating Conditions with Cumulative Average Size Special Events (continued)</i></p>		<p>(7) Designate a traffic consultant to prepare periodic reports on whether the performance standards have been met and any problems or recommendations.</p> <p>The Events Coordination program described above would be a new enterprise for the County. Current and anticipated resources do not allow for any staff or budget to implement the program described. This program could be funded through a fair share contribution of the event venues, either as a permit condition or voluntary program. A consultant could be hired to implement the program, to contact the event venues and compile the event information. A traffic engineer would be needed to establish performance standards.</p> <p>It should be noted that properties with approved use permits for events would not be subject to the coordination program unless a modification of each use permit is proposed. It may be possible to involve such event venues on a voluntary basis.</p> <p>(c) As an alternative to the County establishing a program to schedule special events the following measures would be required to reduce SR 12 operating conditions with cumulative average size special events:</p> <p>(1) Widen SR 12 to four lanes (two lanes each direction) plus left turn lanes at all major roadway and driveway intersections from Santa Rosa to south of Kenwood. Require funding participation by all new facilities (and by existing facilities seeking use permits) contributing traffic to the SR 12 corridor.</p> <p>(2) Signalize the SR 12/Adobe Canyon Road intersection when warranted.</p>	
<p><i>Impact 5.2-9 Project Access Road Intersection Impacts</i></p> <p>The SR 12/project access road intersection southbound left turn to SR 12 would operate at LOS F conditions for all with-project 2005 and 2012 time periods analyzed. However, this would not be considered a significant impact because it would be a low-volume road as described in significance criteria XI</p>	LTS	No mitigation would be required.	LTS
<p><i>Impact 5.2-10 Roadway Hazards</i></p> <p>The proposed roadway system would comply with County roadway standards.</p>	LTS	No mitigation would be required.	LTS
<p><i>Impact 5.2-11 SR 12/Project Access Road Intersection Safety Impacts</i></p> <p>Potential safety concerns for SR 12 vehicles slowing to turn into the project site would be less-than-significant.</p>	LTS	No mitigation would be required.	LTS

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<i>Impact 5.2-12 Internal Pedestrian Access</i> Internal pedestrian access impacts would be less-than-significant	LTS	No mitigation would be required.	LTS
<i>Impact 5.2-13 Emergency access</i> The absence of secondary emergency access to the site raises a safety concern. The County's requirement that all new residential dwellings and commercial buildings include fire sprinklers would make this a less-than-significant impact.	LTS	No mitigation would be required.	LTS
<i>Impact 5.2-14 Parking Supply</i> The proposed parking supply would be adequate for expected parking demand, a less-than-significant impact. The layout of the winery does not, however, show the horse trailer parking, this would be a significant impact.	S	In the final map the parking lot plan for the winery trail use area shall be revised to designate space for horse trailers.	LTS
<i>Impact 5.2-15 Road Hazards</i> Project construction could result in off-site parking and spills along construction routes.	S	The applicant shall be responsible for preparing a construction traffic and parking control program to be carried out during applicant implemented development. The program shall include the following elements: (1) Prohibit parking of construction vehicles anywhere other than on-site. (2) Plan for clean-up of any spills or debris along the construction truck delivery route.	LTS

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
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Hydrology and Water Quality			
<p><i>Impact 5.3-1 Construction Period Water Quality Impacts</i></p> <p>Grading activities would expose soils to the erosional forces of runoff. The eroded sediments would be deposited in the downstream receiving channels, such as Graywood Creek and Sonoma Creek. This would be a short-term significant impact.</p>	<p>S</p>	<p>(1) Prior to the issuance of a grading permit, the applicant shall file with the San Francisco Bay Regional Water Quality Control Board a Notice of Intent to comply with the General Permit for Storm Water Discharges Associated with Construction Activities (General Permit) under the NPDES regulations, and comply with the requirements of the permit to minimize pollution to storm water discharge during construction activities. The General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Specific objectives and Best Management Practices are included in the measure.</p> <p>(2) The applicant shall obtain a County General Grading Permit for all components of the project from the Sonoma County Permit and Resource Management Department.</p> <p>(3) The applicant's drainage plan shall include a County-approved erosion and sediment control plan to minimize the impacts from erosion and sedimentation during construction of all elements of the project. The drainage plan can be reviewed by the PRMD at the same time as the grading plan. This plan should conform to all standards adopted by the County. Many elements of the drainage plan would overlap with the SWPPP. This plan should include application of Best Management Practices.</p>	<p>LTS</p>
<p><i>Impact 5.3-2 Water Quality Impacts from Project-Related Runoff Pollutants</i></p> <p>Surface water quality could be impacted from project-related runoff pollutants, such as suspended solids and floating debris, litter, nutrients, heavy metals, hydrocarbons, pesticides, and trace organics.</p>	<p>S</p>	<p>Non-point source water quality impacts from the project could be mitigated with an overall storm water runoff control program. Under the General Construction Permit, the applicant must develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP includes Best Management Practices for storm water management during and following the construction phase of the project. Mitigation Measure 5.3-1 discusses the management practices applicable to construction activities.</p> <p>Control measures should incorporate such things as vegetated buffer strips, vegetated swales, water quality detention basins, site development restrictions, and other design or source control management practices, as appropriate, to mitigate adverse potential water quality effects. A program of periodic sweeping and cleaning of pavement shall be implemented. Sweeping materials shall be taken to a landfill or other permitted location.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.3-3 Impacts to Existing Drainage Patterns Resulting in Increased Erosion and Sedimentation</i></p> <p>Alterations to existing drainage patterns, including increased peak flows in on- and off-site streams and drainages, and the new construction of roadways, stream crossings, parking areas, and structures could result in increased erosion and sedimentation of on- and off-site small drainages and Graywood and Sonoma Creeks.</p>	<p>S</p>	<p>(a) The applicant shall revise the location of the roadway, and alternate water tank to avoid impacts to the natural drainage ways. Per County requirements, the water tank shall be located at a distance of at least 2 ½ times the height of the stream bank plus 30 feet from the toe or the stream bank, or 30 feet outward from the top of the stream bank, whichever distance is greater. Roadway improvements shall be prohibited any closer to Graywood Creek than the existing road where improvements would be within 50 feet of the top of bank.</p> <p>(b) The applicant shall prepare, for the review and approval by the Sonoma County Permit and Resource Management Department, a drainage plan (including appropriate hydrologic and hydraulic information) which minimizes changes in post-development runoff, site peak flows, and stream velocities as compared with pre-development conditions. The design calculations shall demonstrate that the post-development ten-year runoff would not exceed pre-development runoff levels.</p>	<p>LTS</p>
<p><i>Impact 5.3-4 Increased Peak Flows to Sonoma Creek Resulting in Increased Flooding</i></p> <p>The project site contains two watersheds that contribute flow to Sonoma Creek. Development of the watersheds could result in a small increase in peak flows (approximately 0.3 percent) to Sonoma Creek (translating into an estimated one or two inches of increased flood level). The impact on existing downstream flooding would be negligible, and would likely be lessened by the mitigation required to reduce impacts from increased peak flow on erosion and sedimentation (Mitigation Measure 5.3-3(b)).</p>	<p>LTS</p>	<p>No mitigation would be required.</p>	<p>LTS</p>
<p><i>Impact 5.3-5 Increased Flows to the Narrow-anthered California Brodiaea Colony</i></p> <p>The project site contains a colony of narrow-anthered California Brodiaea. The east fork of Graywood Creek flows through this colony. Development of the east fork's drainage area could lead to changes in flow to the Brodiaea colony, thus affecting the amount of water provided to the wetland and increasing erosion along the channel. Since the narrow-anthered California Brodiaea is a special status plant species, changes in the wetland hydrology would be a significant impact</p>	<p>S</p>	<p>To mitigate the impacts of peak flow and increase runoff volumes to the Brodiaea colony, the applicant shall prepare a drainage plan that minimizes changes in peak flow or runoff volume to the sensitive plant colony. The design calculations shall demonstrate that the post-development ten-year runoff would not exceed pre-development runoff levels. The drainage plan shall include measures that would mitigate impacts to the Brodiaea colony; examples of such BMPs are provided in the mitigation measure.</p>	<p>LTS</p>
<p><i>Impact 5.3-6 Impacts from Placing Housing/Structures in 100-Year Flood Hazard Area</i></p> <p>The project site is neither located in an area mapped as a 100-year flood hazard area, nor would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.</p>	<p>LTS</p>	<p>No mitigation would be required.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.3-7 Impacts from Inundation by Seiche, Tsunami, or Mudflow</i></p> <p>The project site is not located in an area that would expose persons to inundation by seiche, tsunami, or mudflow.</p>	LTS	No mitigation would be required.	LTS
<p><i>Impact 5.3-8 Cumulative Hydrology and Water Quality Impacts</i></p> <p>Cumulative projects within the area could exacerbate existing flooding problems along Sonoma Creek, increase erosion, and degrade water quality in the Sonoma Creek Watershed and its developed subwatersheds. Although the proposed project's impact on downstream flooding would be small, its contribution would represent part of the cumulative impact of all of the projects combined; this would be a significant cumulative impact.</p> <p>The project's contribution to the cumulative water quality and erosion impacts would be less than cumulatively considerable, after incorporating mitigation measures required by the EIR.</p>	S	To mitigate the project's cumulative contribution to flooding of Sonoma Creek, the applicant shall also include in their drainage plan (see Mitigation Measure 5.3-3(b)) provisions for maintaining the pre-development 100-year runoff levels. The design calculations shall demonstrate that the post-development 100-year runoff would not exceed pre-development runoff levels This can be achieved by BMPs such as those outlined in Mitigation Measure 5.3-3(b) (for example, stormwater detention facilities).	LTS
<p>Wastewater</p>			
<p><i>Impact 5.4-1 Wastewater Treatment Requirements May Not Be Met</i></p> <p>If the individual package treatment facilities (FAST) are not properly maintained, operated, or monitored, waste discharge requirements may not be met.</p>	S	The FAST system shall be operated, maintained, and monitored by a California Licensed Grade Three Waste Water Treatment Plant Operator (Grade 3 Operator) and shall be under a valid Operational Permit with the County. Although the FAST system is a proven technology, and a Grade 3 Operator is not required under County or State regulations, a contract for operation, maintenance, and monitoring with a Grade 3 Operator is a recommended practice. The Grade 3 Operator shall maintain all components of collection, treatment, and disposal, and shall have access to all monitoring records (see Responsibility and Monitoring). An operation and maintenance (O/M) manual, and an accident contingency plan shall be developed by the applicant. The O/M manual and contingency plan shall be subject to review and approval by the County.	LTS

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.4-2 Impacts From the Operation of New Wastewater Treatment Facilities</i></p> <p>Constructing the winery and events pavilion wastewater treatment and disposal system for the smaller design flow could result in an undersized-system that would not adequately treat the wastewater during these peak conditions; this would be a potentially significant impact.</p>	<p>S</p>	<p>The winery wastewater treatment and disposal systems shall be designed to provide adequate treatment and disposal capacity for wastewater flows generated by a peak event at the winery, tasting room, and events pavilion (2,810 gpd). This can be achieved either through the use of an appropriately-sized flow equalization tank to store and regulate excess peak flow entering the treatment system to match the proposed peak design capacity (1,955 gpd), or by sizing the treatment plant and disposal field for the peak flow conditions. The disposal capacity could be expand to 2,810 gpd by adjusting the winery parcel boundary to the south to expand the leachfield into what would now be the inn/spa/restaurant disposal area, increasing the size of the disposal area, or by finding a more suitable disposal area on the winery and events pavilion parcel.</p> <p>The winery and events pavilion disposal field could be relocated farther north of its present location where soils are also suitable for on-site wastewater disposal; the development plan shows several winery-related buildings planned for this area. These proposed buildings would have to be relocated or removed to accommodate the disposal area.</p>	<p>LTS</p>
<p><i>Impact 5.4-3 The Soil Type and Land Area for Some of the Proposed Residential Leachfields Would not be Capable of Supporting the Use of On-Site Wastewater Treatment and Disposal Systems</i></p> <p>In general, the on-site treatment and disposal systems are located in areas with adequate land areas and soil type. However, two of the proposed residential leachfields are planned in areas that would not meet applicable setback requirements. Locating leachfields in areas that do not meet these requirements would be a significant impact.</p>	<p>S</p>	<p>Prior to construction, the on-site wastewater treatment and disposal facilities shall demonstrate that all setback requirements would be met. Exhibit 5.4-6 lists the leachfield areas that, as proposed, are not in conformance with setback requirements. These leachfields shall be revised, or, where appropriate, the property line may be adjusted to meet the setback requirement. A condition of approval shall be incorporated requiring that the development on each lot not exceed the available capacity of the leachfields as proposed, unless it is shown that the lots can provide additional capacity for leachfield disposal according to the County requirements.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.4-4 Potential Impacts Due to Exceeding Water Quality Standards or Waste Discharge Requirements, or Otherwise Resulting in Water Quality Degradation</i></p> <p>Water quality impacts from wastewater disposal are primarily due to bacteriological effects and nitrate additions to the groundwater, particularly when the groundwater is used as a drinking water source. Bacteriological effects are generally eliminated by processes within the soil, addressed through proper siting, design, and system operation. Nitrates are not readily absorbed by the soil. The commercial disposal fields are located in a groundwater recharge area, with 14 neighboring wells located directly south and south east of the project site. Groundwater nitrate levels downgradient of the disposal fields are projected to be near or in excess of drinking water standards unless the wastewater treatment system is designed and operated to provide substantial nitrogen removal.</p>	<p>S</p>	<p>To mitigate impacts to groundwater quality, the proposed FAST wastewater pretreatment systems shall be designed and operated for nitrogen removal to ensure that the nitrate concentration of the commercial wastewater effluent entering the disposal fields would not result in a groundwater quality that exceeds the drinking water standard at any property boundary. This requirement can be achieved safely by providing a final effluent nitrogen concentration of 15 mg-N/L, which is a reasonable treatment standard for a FAST system. The proposed FAST treatment systems shall be designed and operated to achieve effluent total nitrogen concentrations below 15 mg/L.</p>	<p>LTS</p>
<p><i>Impact 5.4-5 Impacts to Groundwater Hydrology</i></p> <p>Both a general and localized rise in water table can occur where there is a high density of septic systems. In this case, a general rise in the water table would not be expected, since the proposed project would rely upon on-site groundwater resources for its water supply. Therefore, there would be no net increase in the amount of water replenishing to the groundwater beneath the site. A localized rise in the water table (called groundwater mounding), occurs when systems are clustered together over a small area. Groundwater mounding would not occur as a result of wastewater disposal on the project site.</p>	<p>LTS</p>	<p>No mitigation would be required</p>	<p>LTS</p>
<p><i>Impact 5.4-6 Cumulative Impacts from Wastewater Treatment and Disposal</i></p> <p>Potential cumulative impacts that may arise from the use of on-site sewage disposal systems relate specifically to changes in groundwater hydrology or water quality. Background nitrate levels in the cumulative study are relatively low compared to the drinking water standard (10 mg- N/L), and it is unlikely that additional nitrate loading from wastewater disposal would significantly increase regional groundwater nitrate concentrations. Cumulative impacts to groundwater hydrology and water quality would therefore be less-than-significant. Further, the proposed project's contribution to any potential cumulative impacts would be less than considerable, due to mitigation measures required by the EIR, and, therefore, the cumulative impact would be less than significant.</p>	<p>LTS</p>	<p>No mitigation would be required.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact (SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)	Signif Before Mit.	Mitigation	Signif After Mit
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Water Supply			
<p><i>Impact 5.5-1 Adequacy of Water Supply</i></p> <p>The pumping test verified that the Resort Well can produce enough water for both the proposed inn/spa/restaurant (including the winery and events pavilion) and residential development, including the winery and events pavilion. Annual groundwater recharge in the area easily exceeds the projected annual water demand, meaning the aquifer would continue to be sufficiently replenished, and will not be overdrafted as a result of the proposed project. Further, water quality testing has shown that the groundwater is of suitable quality for the proposed domestic and irrigation water needs of the project. Therefore, the Resort Well and Winery Well would be suitable to supply an adequate quantity and quality of water for the proposed project.</p>	LTS	No mitigation would be required.	LTS
<p><i>Impact 5.5-2 Impacts from the Construction of New or Expanded Water Treatment Facilities</i></p> <p>The proposed project would draw water from on-site groundwater sources. Since no new or expanded water treatment facilities would be required, this would not be an impact</p>	LTS	No mitigation would be required.	LTS
<p><i>Impact 5.5-3 Impacts to Groundwater Recharge and Aquifer Level</i></p> <p>Compared to the estimated pre-development recharge volumes over the entire site, the proposed project is estimated to result in an approximate 15 to 20 percent reduction in the net on-site recharge of the groundwater basin. Averaged over the approximate 180-acre project site, the net annual reduction in groundwater recharge would amount to about 0.12 to 0.16 acre-feet per acre, or 1.5 to 2.0 inches.</p>	LTS	No mitigation would be required.	LTS
<p><i>Impact 5.5-4 Impacts to Neighboring Wells and Springs from Well Interference</i></p> <p>Well interference effects on neighboring wells would not limit ability of the wells to provide water for existing domestic or irrigation uses. Based upon spring flow monitoring during the pumping test, water quality characteristics of the springs and well water, and the location of the springs upgradient of the wells, the neighboring springs would not be influenced by the proposed wells. Impacts to neighboring wells and springs from well interference would be less-than-significant.</p>	LTS	No mitigation would be required.	LTS

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.5-5 Cumulative Water Supply Impacts.</i></p> <p>Nearly all of the cumulative projects, or portions thereof, are located in the groundwater recharge area and major groundwater basin (Class I groundwater area) that underlies the flatter topography of the valley. The cumulative loss of recharge area would decrease the amount of water recharging to this water source; however, the overall effect would be small. The pumping tests and analysis of drawdown effects for the Sonoma Country Inn water supply wells indicate that the impact to nearby wells would be less-than-significant. Any interference effects on wells (existing or new) located at greater distances from the project wells would be negligible because of the exponential decline in impact with distance. Groundwater recharge and well interference effects from the proposed project would be less than cumulatively considerable and therefore a less-than-significant impact.</p>	<p>LTS</p>	<p>No mitigation would be required.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
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Biological Resources			
<p><i>Impact 5.6-1 Special-Status Species</i></p> <p>The proposed project could have a substantial adverse effect on the populations of narrow-anthered California brodiaea and Sonoma ceanothus, and could effect raptor nests if established on the site prior to construction.</p>	<p>S</p>	<p>(a) Revise the proposed development plan/tentative map to restrict improvements outside the known distribution of the narrow-anthered California brodiaea and Sonoma ceanothus populations to the maximum extent feasible. Minimum standards are included in the measure.</p> <p>(b) A final Mitigation Plan shall be prepared by a qualified botanist to provide for permanent protection of the narrow-anthered California brodiaea population on the site. The Mitigation Plan shall be prepared in consultation with the CDFG and meet with the approval of the County Permit and Resource Management Department staff. The Mitigation Plan shall define measures which ensure protection of the population, salvage of any seed and/or individual plants within the limits of grading, replanting of salvaged material in suitable protected habitat, long-term management requirements, and monitoring of the habitat protection and salvage efforts. The measure includes specific components to be included in the Mitigation Plan.</p> <p>(c) A final Mitigation Plan shall be prepared by a qualified botanist to provide for permanent protection of the Sonoma ceanothus population on the site. The Mitigation Plan shall be prepared in consultation with the CDFG and meet with the approval of the County Permit and Resource Management Department staff. The Mitigation Plan shall define measures which ensure protection of the population, salvage of any seed and/or individual plants within the limits of grading, replanting of salvaged material in suitable protected habitat, long-term management requirements, and monitoring of the habitat protection and salvage efforts. The measure includes specific components to be included in the Mitigation Plan.</p> <p>(d) Any active raptor nests in the vicinity of proposed grading shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling grading and tree removal during the non-nesting period (September through February), or if this is not feasible, by conducting a pre-construction survey for raptor nests. Specific provisions of the pre-construction survey and nest avoidance are included in the measure.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact (SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.6-2 Loss of Sensitive Natural Communities</i></p> <p>The proposed project would result in loss of important native habitat and sensitive natural community types.</p>	<p>S</p>	<p>(a) Revise the proposed development plan/tentative map to avoid disturbance to the sensitive natural communities. Minimum standards are included in the measure.</p> <p>(b) A final Vegetation Management Plan shall be prepared by the applicant's certified arborist in consultation with the botanist called for in Mitigation Measure 5.6-1(b) and 5.6-1(c). The final Vegetation Management Plan shall be expanded to address protection and management of woodland, forest, riparian, chaparral, wetland, and grassland habitat on the site. Revisions to the Vegetation Management Plan are included in the measure.</p>	<p>LTS</p>

**Exhibit 2.2-1 (continued)
Summary of Findings**

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.6-3 Loss of Wetlands and Drainages</i></p> <p>The proposed project could result in loss and modifications to jurisdictional wetlands and other waters, and could contribute to degradation of downstream areas.</p>	<p>S</p>	<p>(a) Revise the proposed development plan and tentative map to restrict improvements outside the seasonal wetlands and minimize disturbance to the ephemeral drainages on the site. Specific revisions are included in the measure.</p> <p>(b) As recommended in Mitigation Measure 5.3-2, a Stormwater Pollution Prevention Plan shall be prepared and implemented using Best Management Practices to control both construction-related erosion and sedimentation and project-related non-point discharge into waters on the site. The plan shall contain detailed measures to control erosion of exposed soil, provide for revegetation of graded slopes before the start of the first rainy season following grading, address non-point source pollutants to protect wetlands and water quality in the drainages, and specify procedures for monitoring of the effectiveness of the measures. These measures shall be integrated with the provisions to prevent changes in peak flow and runoff volumes that could adversely affect the seasonal wetlands, as recommended in Mitigation Measure 5.3-5.</p> <p>(c) A bridge or arched culvert shall be used for the Graywood Creek crossing to minimize disturbance to jurisdictional waters in the channel and provide for a natural bed under the structure. The width of the crossing structure shall be kept to a minimum acceptable from a traffic safety standpoint, and construction improvements implemented with caution to minimize disturbance to the channel and loss of vegetation along the creek. Construction shall be performed during the low flow period in the creek, from July through October, and construction debris kept outside of the creek channel through use of silt fencing.</p> <p>(d) Restrict construction of roadway and driveway improvements within 100 feet of the potential seasonal wetlands and ephemeral drainages to the summer months after these features contain no surface water to minimize disturbance and the potential for sedimentation.</p> <p>(e) All necessary permits shall be secured from regulatory agencies as required to allow for modifications to wetlands and stream channels on the site. This may include additional requirements for mitigation as a condition of permit authorization from the Corps, CDFG, and RWQCB. Evidence of permit authorization shall be submitted to the County Permit and Resource Management Department prior to issuance of any grading or building permits by the County to ensure compliance with applicable State and federal regulations.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact (SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.6-4 Wildlife Habitat and Connectivity Impacts</i></p> <p>The proposed project would interfere substantially with wildlife movement opportunities.</p>	<p>S</p>	<p>(a) Revise the proposed development plan to minimize the loss of woodland and forest habitat on the site. Minimum standards are included in the measure.</p> <p>(b) A final Vegetation Management Plan shall be prepared by the applicant's certified arborist in consultation with the botanist called for in Mitigation Measures 5.6-1(b). The final Vegetation Management Plan shall be expanded to address protection and management of woodland, forest, riparian, chaparral, wetland, and grassland habitat on the site. Revisions to the Vegetation Management Plan outline prepared by MA in 2000 are included in the measure.</p> <p>(c) Revise the Vegetation Management Plan called for in Mitigation Measures 5.6-2(b) and 5.6-4(b) to provide a program addressing the loss of trees. The enhancement program shall incorporate recommendations in Mitigation Measure 5.6-4(a) to avoid tree resources to the greatest extent possible and provide for replacement plantings in the Oak Tree Preserves, the Riparian Preserve along Graywood Creek, and on grading slopes where tree planting would not conflict with fire management and grassland habitat management restrictions. The enhancement program shall also include provisions for long-term management of tree resources on the site, including areas to be designated as preserves or permanent open space to improve the health of forest and woodland cover and reduce the potential for devastating wildfires.</p> <p>(d) Measures recommended in Mitigation Measures 5.6-1, 5.6-2, 5.6-3 and 5.6-4(a) through 5.6-4(c) would serve to partially protect important natural habitat on the site for wildlife, avoid the potential loss of raptor nests, provide for preservation of wildlife movement opportunities along Graywood Creek and the upper elevations of the site where it borders Hood Mountain County Park, control the loss of woodland/forest habitat, and provide for replacement tree plantings. The measure includes additional provisions to further protect wildlife habitat resources, and to be defined in CC & Rs for the residential lots</p>	<p>LTS</p>
<p><i>Impact 5.6-5 Cumulative Biological Impacts</i></p> <p>With implementation of required mitigation measures the proposed project would not contribute to a cumulative significant loss of woodland, forest, and grassland habitat in the northeastern area of the Sonoma Valley.</p>	<p>LTS</p>	<p>No mitigation would be required.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
Geology/Soils			
<i>Impact 5.7-1 Impacts from Fault Rupture</i> The project would not be located on active faults.	LTS	No mitigation would be required.	LTS
<i>Impact 5.7-2 Earthquake Induced Ground Shaking</i> Strong seismic shaking is expected to occur at the site some time during the design life of the proposed development which could damage structures.	S	Prior to grading, building, or septic permit issuance a site- and project-specific design level geotechnical engineering investigation shall be prepared to develop seismic design criteria for proposed structures at the site. These reports shall include a characterization of the soil/rock conditions and appropriate seismic design coefficients and near-field factors in accordance with current Uniform Building Code. The project applicant shall incorporate the recommendations developed in the site-specific geotechnical reports prepared for each development area. Said recommendations shall be implemented and constructed as part of the development of the site. Ground motions and Uniform Building Code site coefficients shall be determined by a separate analysis as part of design-level geotechnical investigations for the specific buildings and other proposed structures.	LTS
<i>Impact 5.7-3 Liquefaction</i> Liquefiable soils have not been encountered at the project site. However, liquefiable deposits may still be present in the alluvial soils underlying the proposed leachfield disposal systems for the winery and inn/spa/restaurant.	S	Future design-level geotechnical investigation for proposed leachfield disposal systems or other improvements south of the winery area shall address the presence or absence of liquefiable soils. Such evaluations shall be performed in accordance with California Division of Mines and Geology guidelines. In areas where liquefaction induced ground deformations are determined to pose a risk to proposed leachfield systems or other improvements, ground improvement measures should be implemented as determined by the geotechnical investigations.	LTS
<i>Impact 5.7-4 Seismic Ground Settlements</i> Ground settlements (densification) can occur when soils with low density or high void ratios compact upon shaking. Ground settlements are considered most likely to occur in the lowland alluvial fan areas during seismic shaking.	S	If structures or septic systems are proposed in the lowland alluvial fan area, the following measures would be required to mitigate ground settlement impacts: (1) Identify site soil conditions through exploratory borings to determine general soils profile and characteristics. (2) Rework and compact soils where such soils are identified in the near surface. (3) Use drilled pier or driven pile foundations which carry the loads from structures through the loose densifiable layers and into competent strata. Alternative foundation designs (such as reinforced mats) also may be considered.	LTS

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.7-5 Lurching and Ground Cracking</i></p> <p>Lurching and ground cracking can occur at the edges of slopes or steep stream banks during strong ground shaking.</p>	<p>S</p>	<p>If structures or septic systems are proposed near steep banks, future building-specific geotechnical investigation for development in the lowland area shall determine the presence or absence of fills and/or natural slopes/banks with a potential for seismically-induced ground cracking and failure by lurching. If found to exist, special foundation design or re-working of the soils or other appropriate design, as determined by the area and site-specific investigations, shall be employed to mitigate this impact.</p>	<p>LTS</p>
<p><i>Impact 5.7-6 Lateral Spreading</i></p> <p>Lateral spreading refers to lateral deformations of banks or sloping areas as a result of seismic liquefaction. Liquefiable soils have not been encountered at the site. However, liquefiable deposits may still be encountered in alluvial deposits beneath the leachfield disposal systems for the winery and inn/spa/restaurant.</p>	<p>S</p>	<p>Future design-level geotechnical investigation for proposed leachfield disposal systems or other improvements south of the winery area shall address the potential for lateral spreading. In areas where lateral spreading deformations are determined to pose a risk to proposed leachfield systems or other improvements, ground improvement measures (such as chemical grouting grouting, deep dynamic compaction or vibro-replacement) should be implemented as determined by the geotechnical investigations.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.7-7 Landsliding and Slope Instability</i></p> <p>Previous geologic work at the site indicates that there is not a significant risk with respect to the presence of landslides within the proposed building envelopes. Remaining slope stability risks to the development of residential/commercial structures would be associated with instability that may be generated during grading of the building pads and other improvements.</p>	<p>S</p>	<p>The following mitigation measures would be required to mitigate significant impacts related to landsliding and slope instability:</p> <p>(a) Design-level site-specific geotechnical engineering investigation and analysis is required within proposed development improvements. Site specific investigations should evaluate the potential for slope instability, especially where unstable contacts within the volcanic rock may be exposed as a result of grading.</p> <p>(b) Grading and excavation activities shall comply at a minimum with the Uniform Building Code, County of Sonoma standards, and site-specific design criteria established in the geotechnical reports. The geotechnical reports shall consider the following measures:</p> <ol style="list-style-type: none"> 1. All fills constructed on slopes steeper than 5:1 (horizontal to vertical), or any fills with a height greater than three feet above original ground level shall be keyed and benched into competent material and provided with subdrainage. Unreinforced permanent fill slopes shall be no steeper than 2:1 and, where slope heights exceed 15 feet the fills shall be provided with benches and surface drainage controls. All fills shall be engineered and compacted to at least 90 percent relative compaction (as determined by ASTM D 1557), unless recommended otherwise by the applicant's Geotechnical Engineer. 2. Slopes on the project site shall be improved with erosion protection and planted with vegetation. Planted vegetation shall include native drought-tolerant and fire-resistant species. Catchment basins shall be constructed at strategic locations where needed to minimize the potential for off-site sedimentation from existing and/or potential on-site sources. <p>(c) Use proper construction, inspection, and maintenance practices to protect against creation of unstable slopes.</p> <p>A plan for the periodic inspection and maintenance of slope stability improvements, subdrains, and surface drains, including removal and disposal of material deposited in catchment basins, shall be prepared and submitted to the County of Sonoma for review and approval by the County Permit and Resource Management Department Drainage Review prior to occupancy. This plan shall include inspection and disposal procedures, schedule and reporting requirements, and the responsible party. This plan can be part of the overall long-term project maintenance plan.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact (SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.7-8 Creek Bank Stability</i></p> <p>Bank erosion along Graywood Creek (including upslope off-site sources) could result in localized instability of the stream banks. Bank failures may also occur as a result of seismic shaking. Such instability could impact the roadway, and could result in flooding and/or debris flow activity which could impact the downslope areas.</p>	<p>S</p>	<p>Road design adjacent to Graywood Creek shall be based on design level geotechnical evaluation. Creek bank stability measures shall be incorporated into road design. Designs may include but shall not be limited to drainage improvements, stream bank stabilization or road setbacks. All grading at the site shall be subject to the requirements of Mitigation Measure 5.7-7 regarding slope stability. These features shall be designed to stabilize upslope areas prone to erosion or earth movement which could block drainages and result in sudden breaches and downslope erosion and flooding. The project applicant shall incorporate the recommendations developed in the site specific geotechnical reports prepared for each development area. Said recommendations shall be implemented and constructed as part of the development of the area.</p> <p>Stabilization measures within creeks shall conform to requirements of the County of Sonoma, California Department of Fish and Game, and other applicable agencies, and shall be submitted for approval by these agencies.</p>	<p>LTS</p>
<p><i>Impact 5.7-9 Expansive Soils</i></p> <p>Expansive soils may be identified during site-specific work which could result in damage to foundations, slabs or pavements.</p>	<p>S</p>	<p>Prior to building, grading, or septic permit issuance the project applicant's Geotechnical Engineer shall complete site-specific investigations with detailed soils analyses of the actual locations and types of proposed buildings, slabs and pavements. Those investigations shall include laboratory testing of on-site soils to assess their expansion potential. These investigations shall result in design recommendations which include specifications for stabilizing areas of expansive soil (if encountered), quality of imported fill material, compaction standards for engineered soil materials, floor slab and pavement design recommendations, surface and subsurface drainage requirements, and grading specifications.</p>	<p>LTS</p>
<p><i>Impact 5.7-10 Low Strength Soils</i></p> <p>Site soils may be encountered during site-specific investigations that are of low strength or of low density such that they could collapse or subside under foundation loading.</p>	<p>S</p>	<p>Prior to building, grading, or septic permit issuance the project applicant shall conduct site-specific geotechnical investigations and analyses of potential differential settlements of buildings and other site improvements, and develop design criteria as necessary to reduce differential settlements to tolerable levels. Potential measures may include but not be limited to overexcavation and recompaction of weak soils or utilizing deep foundations to extend foundation support through low strength soils and into underlying competent material.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

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Visual and Aesthetic Quality			
<i>Impact 5.8-1 View from State Route 12 at Lawndale Road looking North</i> From this viewpoint, glimpses of some parts of the winery occur among the trees at the lowest elevations of the site. Also, portions of houses on residential lots 3 and 4 are visible.	LTS	No mitigation would be required.	LTS
<i>Impact 5.8-2 View from Adobe Canyon Road looking northwest</i> From this viewpoint, portions of the main area of the proposed project would be seen. The upper part of the inn's main house and adjacent cottages extend above the tops of intervening trees on the hillside immediately in front of the development.	LTS	No mitigation would be required.	LTS

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.8-3 View from State Route 12 west of Adobe Canyon Road looking North</i></p> <p>From this viewpoint, portions of the main area of the proposed project are seen. The upper part of the inn's main house and adjacent cottages extend above the tops of intervening trees on the hillside immediately in front of the development. The form and color of the buildings would attract the attention of viewers at this viewpoint.</p>	<p>S</p>	<p>In order to minimize visual impacts, measures shall be applied to reduce the visual contrast of the inn/spa/restaurant with the immediately surrounding setting so that the project would not attract attention as seen from State Route 12. Such measures include the use of certain colors on exterior building surfaces and retaining as many trees on the project site as possible. The measures shall require:</p> <ul style="list-style-type: none"> x Colors used for exterior building surfaces shall match the hue, lightness, and saturation of colors of the immediately surrounding trees. Several colors matching those of the surrounding trees shall be used in order to minimize uniformity. x The height of guest cottage buildings (building types D and F, two stories) located east of the inn's main house and closest to State Route 12 shall be limited to 20 feet as measured from the original ground elevation to the peak of the roof in order to minimize the amount of the buildings that can be seen from State Route 12 west of Adobe Canyon Road. x Existing trees in the area between the inn/spa/restaurant and State Route 12 shall be preserved to the extent possible in order to provide a screen and minimize the amount of the building that can be seen from State Route 12 west of Adobe Canyon Road. x The finish floor elevation of the main house shall not exceed 722 feet elevation and the finish floor elevation of the second floor shall not exceed 736 feet elevation. x Prior to building permit issuance for the inn/spa/restaurant, the grading plan, development plan, landscaping plan, sign plan, elevations, and colors and materials shall receive review and approval of the Sonoma County Design Review Committee 	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

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<p><i>Impact 5.8-4 Light Pollution</i></p> <p>Implementation of the proposed project would result in new lighting sources on the project site, which together with other proposed development, could lead to increased light pollution. This would be both a significant project impact and a significant cumulative impact.</p>	<p>S</p>	<p>In order to minimize light pollution impacts prior to building permit issuance an exterior lighting plan shall be submitted to the County Permit and Resource Management Department for the inn/spa/restaurant and the winery for review and approval. Prior to recording the final map, standards to be included in the project's CC&Rs for implementation by the Homeowners' Association for exterior lighting plans for residential units shall also be submitted to the County Permit and Resource Management Department for review and approval. The lighting plans shall require:</p> <ul style="list-style-type: none"> x All light sources shall be fully shielded from off-site view. x All lights to be downcast except where it can be proved to not adversely affect other parcels x Escape of light to the atmosphere shall be minimized. x Low intensity, indirect light sources shall be encouraged. x On-demand lighting systems shall be encouraged. x Mercury, sodium vapor and similar intense and bright lights shall not be permitted except where their need specifically approved and their source of light is restricted. 	<p>SU</p>

Exhibit 2.2-1 (continued)
Summary of Findings

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Cultural Resources			
<p><i>Impact 5.9-1 Potential Subsurface Resources</i></p> <p>While no discernible impacts to archaeological resources or human remains are anticipated, the possibility cannot be precluded that prehistoric cultural deposits and features are present below the ground surface and could be damaged during land alteration activities.</p>	<p>PS</p>	<p>(1) Workers involved in ground disturbing activities shall be trained in the recognition of archaeological resources (e.g., historic and prehistoric artifacts typical of the general area), procedures to report such discoveries, and other appropriate protocols to ensure that construction activities avoid or minimize impacts to potentially significant cultural resources.</p> <p>(2) If cultural deposits are encountered at any location, halt construction in the vicinity and consult a qualified archeologist and the Native American community. The archeologist shall conduct an independent review of the find, with authorization of and under direction of the County. Prompt evaluations should be made regarding the significance and importance of the find and a course of action acceptable to all concerned parties should be adopted.</p> <p>If mitigation is required, preservation in place is the preferred manner of mitigating impacts to archaeological sites. This may be accomplished, but not limited to: 1) Planning construction to avoid archeological sites; 2) Incorporation of sites within parks, green space, or other open space; 3) Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site; 4) Deeding the site into a permanent conservation easement.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

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<i>Impact 5.9-1 Potential Subsurface Resources (Continued)</i>	PS	<p>When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Data recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information, provided that information is documented in the EIR and the studies are deposited with the California Historical Resources Regional Information Center.</p> <p>(3) In the event of an accidental discovery or recognition of any human remains, the following steps should be taken as per State CEQA Guidelines 15064.5(e): There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until (A) the coroner of the county is contacted to determine that no investigation of the cause of death is required, and (B) the coroner determines whether the remains are Native American. If the remains are Native American the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC shall identify the person or persons it believes to be the most likely descended from the deceased Native American. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of (with appropriate dignity) the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.</p> <p>If the event the NAHC is unable to identify a most likely descendent, or the most likely descendent failed to make a recommendation within 24 hours after being notified by the NAHC, or the landowner or his authorized representative rejects the recommendation of the descendent and the mediation by the NAHC fails to provide measures acceptable to the landowner, then the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance</p>	

Exhibit 2.2-1 (continued)
Summary of Findings

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<p>Air Quality</p> <p><i>Impact 5.10-1 Construction Period Air Quality Impacts</i></p> <p>Dust generation from short-term construction activities would cause potential health and nuisance impacts to adjacent land uses. This would be a short-term significant impact.</p>	<p>S</p>	<p>Dust emissions from construction activities would be greatly reduced by implementing fugitive dust control measures. BAAQMD CEQA guidance provides that the significance of construction impacts to air quality is based on the control measures that would be implemented. According to BAAQMD CEQA guidance, implementation of the measures listed below would reduce the dust impacts associated with grading and new construction to a less-than-significant level.</p> <p>As a condition of County approval of any site alteration or grading permit for the inn, the winery, or the residential subdivision, the applicant shall incorporate the following dust control measures in the projects that would disturb the ground:</p> <ol style="list-style-type: none"> (1) Water all active construction areas at least twice daily and more often during windy periods. Active areas adjacent to residences should be kept damp at all times. (2) Cover all hauling trucks or maintain at least two feet of freeboard. (3) Pave, apply water at least twice daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas. 	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.10-1 Construction Period Air Quality Impacts (Continued)</i></p>	<p>S</p>	<p>(4) Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas and sweep streets daily (with water sweepers) if visible soil material is deposited onto the adjacent roads.</p> <p>(5) Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas that are inactive for ten days or more).</p> <p>(6) Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles.</p> <p>(7) Limit traffic speeds on any unpaved roads to 15 miles per hour.</p> <p>(8) Replant vegetation in disturbed areas as quickly as possible.</p> <p>(9) Suspend any activities that cause visible dust plumes, which cannot be controlled by watering.</p> <p>(10) Install wheel washers for all exiting trucks or pave project site entrance road prior to initiating construction of the inn or winery.</p> <p>As a condition of County approval of any site alteration or grading permit, the following measures would be implemented during development of individual residential lots:</p> <p>(1) Water all active construction areas at least twice daily and more often during windy periods. Active areas adjacent to residences should be kept damp at all times.</p> <p>(2) Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles.</p> <p>(3) Replant vegetation in disturbed areas as quickly as possible.</p> <p>(4) Suspend any activities that cause visible dust plumes, which cannot be controlled by watering.</p> <p>A note shall be placed on the final map indicating that grading permits and building permits with land disturbance shall include dust control measures required by the <i>Sonoma Country Inn EIR</i> air quality section.</p>	<p>LTS</p>
<p><i>Impact 5.10-2 Project Carbon Monoxide Impacts</i></p> <p>Traffic generated by the proposed project would contribute to local carbon monoxide concentrations.</p>	<p>LTS</p>	<p>No mitigation would be required.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<i>Impact 5.10-3 Regional Emissions</i> New traffic generated by the proposed project and on-site area sources would increase regional emissions.	LTS	No mitigation would be required.	LTS
<i>Impact 5.10-4 Wood Burning Emissions</i> Wood burning fireplaces could contribute to particulate emissions exceedances.	S	A note shall be placed on the final map that states that only natural gas fireplaces, pellet stoves or EPA-Certified wood-burning fireplaces or stoves shall be allowed in the residences and only natural gas fireplaces shall be allowed in the inn/spa/restaurant and the winery. Conventional open-hearth fireplaces should not be permitted. Prior to recording the final map a statement shall be included in the project's CC&Rs stating that only natural gas fireplaces, pellet stoves or EPA-Certified wood-burning fireplaces or stoves shall be allowed in the residences.	LTS
<i>Impact 5.10-5 Odors</i> The accidental release of hydrogen sulfide from the proposed wastewater pretreatment facilities would be a significant impact.	S	To mitigate possible impacts from the accidental release of hydrogen sulfide from the individual package treatment plants, gases and odors shall be contained in an underground collection and dispersal system or scrubbed with passive or active air quality filters (for example, carbon filters). The package plants shall be enclosed or placed underground to further control odors. To ensure the protection of operating personnel, a hydrogen sulfide/oxygen monitoring program shall be engineered and implemented, and all personnel entering confined spaced shall be required to meet all Occupational Safety and Health Administration (OSHA) standards. A qualified OSHA consultant shall review the hydrogen sulfide/oxygen monitoring program.	LTS

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
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Noise			
<p><i>Impact 5.11-1 Noise Associated with Special Events at the Winery</i></p> <p>Outdoor music at the events pavilion could result in noise levels exceeding the Sonoma County General Plan Noise Element's noise level limits.</p>	<p>S</p>	<p>(a) Project approval shall establish outdoor and indoor noise limits as follows:</p> <p>Noise Limits -- During outdoor events the L₅₀ value during any 15 minute period of amplified sound shall not exceed 70 dBA at a distance of 50 feet from any outdoor performing group or loudspeaker. Maximum intermittent levels at such locations shall not exceed 90 dBA, and 90 dBA shall not be reached more often than once per hour.</p> <p>During indoor events, the exterior L₅₀ during any 15 minimum period of amplified sound shall not exceed 70 dBA at a distance of 50 feet from the outside face of any wall of the events pavilion building. Maximum intermittent levels at such locations shall not exceed 90 dBA, and 90 dBA shall not be reached more often than once per hour.</p> <p>Listed below are examples of measures which are available to insure compliance with the noise level limits specified. One or more measures such as these should be selected for incorporation into the project plans as the design process continues.</p> <p>(1) Restrict loud events, and/or loud noise sources associated with events, to the interior of the building at the events pavilion. The following are examples of noise sources for which an indoor venue should be considered:</p> <p>Pop or rock music, whether live or recorded</p> <p>Drum sets, amplified or not</p> <p>Electric musical instruments (for instance those which make no noise unless provided with electrical power) such as electric keyboards, guitars, and synthesizers,</p> <p>Groups with more than three brass or three reed instruments.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<p><i>Impact 5.11-1 Noise Associated with Special Events at the Winery (Continued)</i></p>	<p>S</p>	<p>(2) To ensure that the event building would provide sufficient noise reduction when needed, conditions such as the following could be applied:</p> <ul style="list-style-type: none"> à Keep windows closed and open doors only briefly as needed to permit entry and exit during indoor events. à Construct the events pavilion building shell shall consist of double faced assemblies, for example studs walls with gypsum board on interior faces and plywood or cement plaster outer faces. <p>(3) Provide a permanent outdoor loudspeaker system</p> <ul style="list-style-type: none"> à Outdoor levels of amplified noise could be controlled if a specially designed amplification system were installed as part of the project. The loudspeakers could be placed to minimize noise propagation to surrounding parcels, and an electronic limiter device could be included to prevent excessive levels. Event pavilion users would then be required to utilize the pavilion system, rather than a temporary system for a particular event. <p>(4) Sound Barriers</p> <ul style="list-style-type: none"> à Construct solid walls around the outdoor activity area at the events pavilion, creating an enclosed patio. Noise walls would help to control noise from outdoor sources at the events pavilion. To obtain substantial reductions of noise levels at the receiving locations, wall height of eight feet or more would be needed. The walls would have to comprise continuous membranes around the outdoor event area. The locations of any gaps would be chosen to minimize noise leaks toward the closest noise sensitive areas. <p>(b) All events shall be restricted to the hours between 7:00 AM and 10:00 PM</p> <p>(c) Disclosure Statements</p> <p>(1) A note shall be placed on the final map as follows:</p> <ul style="list-style-type: none"> à Outdoor events with music could occur during daytime and evening hours up to 30 times per year at the events pavilion. Noise associated with the special events may be audible in nearby residential area. <p>(2) The CC&R's for the residential lots shall require a disclosure at the time of sale advising of the proximity of the events pavilion and the fact that outdoor events with music could occur during daytime and evening hours up to 30 times per year.</p>	<p>LTS</p>

Exhibit 2.2-1 (continued)
Summary of Findings

Impact <i>(SU = Significant Unavoidable, S = Significant, PS = Potentially Significant, LTS = Less than Significant)</i>	Signif Before Mit.	Mitigation	Signif After Mit
<i>Impact 5.11-1 Noise Associated with Special Events at the Winery (Continued)</i>		(d) Monitoring Reports (1) During the initial 12 months of operation of the events pavilion, at least six events shall be monitored to ensure compliance with Noise Element’s noise level limits. The events selected for monitoring shall be those which are most likely to be noisy (for instance events which include outdoor electronically amplified music). The monitoring shall be performed with a conventional noise level meter having an A-weighting filter and a “slow” response setting. In at least three cases, an independent sound engineer or consultant shall perform the monitoring. During these events, proper monitoring procedures shall be demonstrated to the event operators. A written report of the monitoring results shall be submitted to the County Permit and Resource Management Department	
<i>Impact 5.11-2 Noise from Operation of Wastewater Facilities</i> Operation of the wastewater pretreatment facilities could exceed the <i>Sonoma County General Plan Noise Element</i> exterior noise level standards.	PS	To control noise, back-up generators, and the blower units shall be enclosed or otherwise baffled for soundproofing. The system shall be designed and built to be in compliance with Table NE-2 of the <i>Sonoma County General Plan</i> .	LTS

2.3 EVALUATION OF ALTERNATIVES

The EIR examines four on-site alternatives to the project as presently proposed. These are:

- x **Alternative 1 – No Project** If the proposed project were not approved, reasonably foreseeable non-discretionary development on the project site could involve construction of up to 11 homes in accordance with the residential density. .

- x **Alternative 2 – General Plan Alternative** As discussed in *Chapter 4.0 Consistency with Public Plans and Zoning* in 1984 Sonoma County approved a project on the 476 acre Graywood Ranch. No specific actions have been taken to develop Graywood Ranch pursuant to the 1984 approval. The Board of Supervisors, however, reaffirmed its commitment to the 1984 project by including policy LU-14r in the text of the *General Plan* when it was last updated in 1989. Alternative 2 assumes development on the 186 acre *Sonoma Country Inn* project site consistent with current *General Plan* designations and policies. This alternative would consist of the following:
 - à A 36-room inn and restaurant open to inn guests only, located on a 25-acre site.
 - à A winery on a designated “Winery Parcel” (no dwelling units allowed)
 - à 13 residential lots
 - à Agricultural use on the remaining portion of the project site.

For the purpose of this analysis it is also assumed that this alternative would have the same number of special events (30 special events per year with maximum 200-person attendance) as the proposed project because this level and number of events would be permitted under existing zoning with a use permit..

- x **Alternative 3 – Reduced Sized Inn with Winery** This alternative would consist of the following:
 - à A 24-room inn with accessory uses plus a restaurant (with 125 total seats) and spa open to the public by reservation.
 - à A winery, same size as the proposed project.
 - à The same number of special events (30 special events per year with a maximum 200-person attendance) as the proposed project.
 - à Eleven residential units, the same as the proposed project.

- x **Alternative 4 – Reduced Sized Inn without Winery** This alternative would be the same as Alternative 3 except the winery would not be built. Without the winery there would be no special events. This alternative, therefore, would consist of the following:
 - à A 24-room inn with accessory uses plus a restaurant (with 125 total seats) and spa open to the public by reservation.

à Eleven residential units, the same as the proposed project.

On the basis of the discussion of the proposed project and the four on-site alternatives, the EIR finds that the No Project Alternative (Alternative 1) would be the environmentally superior alternative as it would avoid the environmental impacts associated with construction and operation of the proposed *Sonoma County Inn* project.

Section 15126[d] of the *State CEQA Guidelines* states that if the environmental superior alternative is the No Project Alternative, the EIR shall also identify an environmental superior alternative among the other alternatives. Based on a comparison of the impacts of the build alternatives *Alternative 4 (Reduced Sized Inn without Winery)* would be the environmentally superior alternative.

3.0 DESCRIPTION OF THE PROPOSED PROJECT

This chapter of the EIR describes the location of the *Sonoma Country Inn* project (the proposed project), discusses existing land use, land use designations, and zoning on the project site, and summarizes all aspects of the project as proposed. This chapter also identifies the administrative actions required by the planning and environmental review process before this project can be approved.

3.1 SITE LOCATION AND LAND USES

Site Location and Existing Uses

The project site, a portion of the Graywood Ranch, is located at 7945 Sonoma Highway (State Route 12), in the unincorporated community of Kenwood in Sonoma County (see Exhibit 3.0-1). The project site is on the north side of State Route 12 near the intersection of State Route 12 and Lawndale Road (see Exhibit 3.0-2).¹ The project site is approximately 0.75 mile east of the Pythian Road intersection with State Route 12 and approximately 0.6 mile west of the intersection of Adobe Canyon Road and State Route 12. In the vicinity of Graywood Ranch State Route 12 is a two-lane highway.

PROJECT SITE

The Graywood Ranch consists of eight separate parcels totaling approximately 476 acres. The parcels that make up the Graywood Ranch and the acreage of each individual parcel are listed in Exhibit 3.0-3. Exhibit 3.0-4 shows the location of the individual assessor parcels that make up the Graywood Ranch.

¹ For purposes of this EIR, SR 12 is considered to be oriented east-west, while Oakmont Drive, Pythian Road, the project access driveway, Lawndale Road, Adobe Canyon Road, Randolph Avenue, and Warm Springs Road are considered to be oriented north-south.

Exhibit 3.0-1

Exhibit 3.0-2

**EXHIBIT 3.0-3
 GRAYWOOD RANCH PARCELS**

Assessor's Parcel Number	Acreage
051-020-006	6.68
051-020-010	1.10
051-020-019	5.05
051-020-032	7.31
051-020-043	29.29
051-020-045	262.63
051-010-013	40.00
051-010-017	124.38
Graywood Ranch	476.44

Source: Sonoma County

The *Sonoma Country Inn* project site is the southeastern 186 acres of the 476-acre Graywood Ranch.² The *Sonoma Country Inn* project site is currently undeveloped and vacant. At the present time no areas of the project site are in active cultivation.

Four single-family residences plus various miscellaneous buildings (one second unit, a pool and pool house, barns, and leachfields) exist on the remaining 290 acres of the Graywood Ranch.

A private airstrip also exists on the 290 acre portion of the Graywood Ranch. This airstrip was approved by Sonoma County in 1959.³

The project site ranges from approximately 425 feet elevation to approximately 1,230 feet elevation. The project site is relatively flat at the southern end with moderately steep hills in the north. Three subareas have been designated on the project site (see Exhibit 3.0-5). The subareas are as follows:

The south area The southern portion of the project site is on the gently sloping valley bottom, at elevations ranging from about 425 feet along State Route 12, at the south boundary, to about 520 feet at the base of the steep, upland slopes further north.

The central or plateau area From the top of the south area the slopes then ascend moderately steeply to a topographic bench at about elevation 720 to 760 feet.

² There are inconsistencies in the project application materials as to the size of the proposed *Sonoma Country Inn* project site. References range from 177 +/- acres in the proposed General Plan Amendment to 186.2 acres in the proposed subdivision.

³ Sonoma County Planning Commission Resolution 3464, February 19, 1959.

Exhibit 3.0-4

Exhibit 3.0-5

The north area North of the central or plateau area the slopes rise steeply to a ridgetop at the northern end of the site, at about elevation 1,227 feet.

The southern valley bottom portion of the project site is generally open and grass-covered, while the upland areas for the project site are variably densely overgrown with brush and trees.

The project site is crossed by a “blue line” stream.⁴ The “blue line” stream consists of a west fork and an east fork which merge into a single stream near the western boundary of the project site. The “blue line” stream crosses the project site in a diagonal north-south direction (see Exhibit 3.0-2). For the purposes of this EIR, this stream is referred to as “Graywood Creek”.

Vegetation consists of grassland with scattered oak trees on the valley floor transitioning to conifers and assorted woodland on the slopes leading to and on the plateau; a mostly conifer woodland and scattered manzanita/chaparral dominate the plateau with dense manzanita/chaparral on the steeper northerly slopes.

Land Use Designations and Zoning⁵

SONOMA COUNTY GENERAL PLAN

The *Sonoma County General Plan* land use designation for the majority of the Graywood Ranch is Diverse Agriculture 17 acres density (307.01 acres) with the northern portion designated Resources and Rural Development 100 acre density (164.38 acres). A small portion of the Graywood Ranch is designated Recreation and Visitor Serving Commercial (5.05 acres). The Recreation and Visitor Serving Commercial land use designation on parcel 051-020-19 however, is apparently in error; it should be 25 acres on a portion of the adjacent parcels (051-020-006, 010, 032, and 045).⁶

In addition to the land use designations, the *General Plan Open Space Element* designates portions of the Graywood Ranch as Community Separator, Scenic Landscape Unit, and Scenic Highway Corridor.

General Plan policy LU-14r deals directly with the Graywood Ranch and states:

The “Diverse Agriculture” and “Recreation and Visitor Serving Commercial” designations applied to Graywood Ranch (APNs 51-020-06, 10, 19, 32, and 33 and 51-010-13 and 17) are intended to accommodate an approved development consisting of 18 residential parcels, a 35-

⁴ A “blue line” stream refers to streams designated on United States Geologic Survey topographic maps by either a solid or dashed blue line.

⁵ Land use designations and zoning are discussed in greater detail in *Chapter 4.0 Consistency with Public Plans and Zoning*.

⁶ Sonoma County Ordinance 3343, October 2, 1984, Map Correction Ordinance 3368, November 14, 1984, and Resolution 84-1960.

room hotel and a winery, each on separate parcels, an agricultural parcel and a residual parcel.⁷ It is the intent of the General Plan to:

1. Exempt these parcels from the 10 acre minimum lot size requirement of the “Diverse Agriculture” land use category; and
2. Allow modification of the size and location of these parcels without further amendment of the land use map.

Any proposal to increase the total number of lots or the size of the hotel shall require a general plan map and/or text amendment.

NORTH SONOMA VALLEY SPECIFIC PLAN

The *North Sonoma Valley Specific Plan* land use designation for the majority of the Graywood Ranch is General Agriculture (40 to 100 acres density) or Open Land and Residential (10 to 20 acre density). The northern portion of the Graywood Ranch is designated Resource Conservation (40 to 100 acre density).

ZONING ORDINANCE

The majority of the Graywood Ranch is zoned Diverse Agriculture (DA) with a B7 frozen lot size (307.01 acres). In addition, the northern portion of the Graywood Ranch is zoned Resources and Rural Development (RRD) with a 60 acre density (164.38 acres) and a small portion is zoned Recreation and Visitor Serving Commercial (K) (5.05 acres). Similar to the *Sonoma County General Plan* designation, the Recreation and Visitor Serving Commercial zoning designation is in error; it should be 25 acres not on parcel 051-020-019 but rather on a portion of parcels 051-020-006, 010, 032 and 045. The 60 acre density for the RRD zoning designation also is an error. To be consistent with the *General Plan* designation it should be a 100 acre density.⁸ In addition to these zoning districts the entire Graywood Ranch is subject to a Scenic Resources Overlay District (SR).

The *Sonoma Country Inn’s* relationship to specific policies of the *Sonoma County General Plan*, *North Sonoma Valley Specific Plan* and provisions of the Zoning Ordinance are discussed in **Chapter 4.0 Consistency with Public Plans and Zoning**.

⁷ The reference to the 35 room hotel was subsequently determined to be a typographical error and that the correct number of hotel rooms was 36. Letter to Mr. Michael Morrison, Common Ground Land Planning Services from Richard C. Rogers, AICP, Planner III, County of Sonoma Permit and Resource Management Department, February 5, 1996.

⁸ *Ibid*, page 4.

3.2 PROPOSED PROJECT ⁹

Graywood Ranch LP proposes to develop a 50-room inn, a spa, a restaurant, a winery, and 11 residential lots on the southeastern 186 acres of the 476-acre Graywood Ranch.¹⁰ The proposed project includes requests for a Lot Line Adjustment, *Sonoma County General Plan Amendment*, *North Sonoma Valley Specific Plan Amendment*, Zone Change, Major Subdivision, and Use Permit.

History

The 476 acre Graywood Ranch was the subject of a 1984 Board of Supervisors action that approved a Negative Declaration and:

- x Rezoning of 25 acres (“inn parcel” below) from the A1 (Primary Agricultural)-B6-SD 20 and 60 acre density districts to the A2 (Secondary Agricultural)-B7-SD district, and rezoning of 452 acres from the A1-B6 20, 60, and 100 acre density districts to the A1-B7-SD district.¹¹
- x A tentative map including
 - A separate eight acre “winery parcel”,
 - A 107 acre “agricultural parcel” labeled “not a residential lot”,
 - A 255 acre “remnant” parcel labeled “existing home to remain”,
 - 18 additional residential parcels, and
 - A 25 acre “inn parcel”.¹²

The resolution approving the project included a finding that a request for a “36 room inn and associated dining hall” is consistent with the North Sonoma Valley Specific Plan.

⁹ The proposed project is based on the Notice of Preparation (dated May 2, 2002) and the accompanying Environmental Checklist Form plus the following application materials: *Sonoma Country Inn Project Description*, prepared for: Graywood Ranch LLC, Prepared by Common Ground Land Planning Services, December 2000, *Amendment #1 to the Sonoma Country Inn Project*, Common Ground Land Use Planning Services, August 15, 2001 and *Addendum #2 to the Sonoma Country Inn Project*, Common Ground Land Planning Services, February 2002. See **Section 1.5 Information Used to Prepare the EIR** for a complete description of the application materials.

¹⁰ Mr. Lendal Gray owns the remaining portion of the Graywood Ranch (approximately 290 acres). A separate residential project (Graywood Ranch Subdivision) is proposed for that portion of Graywood Ranch and is further described in **Section 3.3 Cumulative Development Assumptions**.

¹¹ Rezoning of the property was approved October 2, 1984 by Sonoma County Board of Supervisors Ordinance 3343. Map Correction Ordinance 3368, approved by the Sonoma County Board of Supervisors November 14, 1984, corrected the dimensions of the A2 zoned parcel.

¹² The tentative map was approved October 2, 1984 by the Sonoma County Board of Supervisors, Resolution #84-1960.

The final map for the subdivision was not recorded. However, the concurrent rezoning to B7 (Frozen Lot Size), indicating that the subdivision potential had been exhausted, was meant to anticipate completion of the approved property development. The *Sonoma County General Plan* when it was adopted in 1989 carried forward the approval of the development by designating a Recreation and Visitor Serving Commercial parcel, designating the Diverse Agriculture portion with a 17 acre residential density and including in the text of the General Plan Area policy LU-14r, indicating the intent to accommodate the subdivision, inn and winery. For complete text of LU14-r, see page 3.0-3.

The *Sonoma Country Inn* proposed project seeks a modification of the development project previously approved.

Project Objectives

Graywood Ranch LP has submitted the following project objectives to Sonoma County for the proposed *Sonoma Country Inn* project: ¹³

- x Construct a high quality 50-room inn, spa, winery, and residential complex that is substantially in compliance with intended uses identified in the *Sonoma County General Plan* and Zoning Ordinance for this property in Sonoma Valley.
- x Design the project in a manner that reflects the historic character of Sonoma Valley and which is consistent with its history of agricultural uses and tourism.
- x Provide a “country inn” experience in keeping with the character of Sonoma Valley, while providing amenities that are available to both local residents and visitors.
- x Protect existing environmental resources of the site, including heritage oak trees, sensitive species, the creek/riparian corridor, and woodlands by clustering the inn, winery, and residences, and by providing extensive open space and setbacks from the creek and other sensitive features.
- x Include in the project design current technologies to minimize potential environmental impacts, including recycling of wastes, composting, and water conservation and re-use.
- x Minimize visual impacts of the project through careful siting of facilities, the use of building materials and colors that blend with the background environment, and lighting that does not intrude on surrounding areas, while also providing view amenities for visitors and residents.
- x Minimize traffic impacts by incorporating improvements on Highway 12 at the entrance to the project, and by limiting the number of special events and attendees at those events.

¹³ *Sonoma Country Inn Project Objectives* contained in an e-mail to Tim Mayer, Sonoma County, from Greg Zitney (applicant’s consultant), May 9, 2002. The objectives are presented verbatim.

Project Related Applications

The proposed project includes the following applications:

LOT LINE ADJUSTMENT

A lot line adjustment is proposed to divide the Graywood Ranch into two separate ownerships along the entry/access road and northward (see Exhibit 3.0-6). It is proposed to reconfigure the approximately 186 acre portion the *Sonoma Country Inn* project site into three lots as follows:

Lot	Acreage
Lot A	16.0 acres (the winery parcel)
Lot B	53.1 acres (the inn parcel)
Lot C	117.1 acres (residential development parcel)
Total	186.2

The remaining portion of the Graywood Ranch would be Lot D and would be 275.15 acres.¹⁴

¹⁴ Three of the existing parcels (051-020-006 [6.68 acres], 051-020-010 [1.10 acres] and 051-020-032 [7.31 acres]) would not be a part of Lot D and are not a part of the proposed lot line adjustment.

Exhibit 3.0-6

GENERAL PLAN AMENDMENT

It is proposed to revise *Sonoma County General Plan* policy LU-14r to read as follows:

The “Diverse Agriculture”, “Resource and Rural Development”, and “Recreation and Visitor Serving Commercial” designations applied to the Graywood Ranch (APN 051-020-006, 010, 019, 032, 043, 045; 051-101-013, 017) are intended to accommodate an approved development consisting of the following:

- x For the easterly 177 +/- acres as shown on the approved Development Plan/Tentative Map:
 - à A maximum of 11 residential lots of varying acreage with one primary single family dwelling each.
 - à 50-room inn with restaurant open to the public within approximately 20 +/- acres of K (Recreation and Visitor Serving Commercial) zoning and on its own parcel.
 - à Winery with incidental retail sales, public tasting, and special events on its own parcel.

- x For the westerly 300 +/- acres:
 - à A maximum of six residential lots of varying acreage including three existing dwelling units.

This General Plan policy is intended to supersede that policy of the same number (LU-14r); this new policy wording is intended to acknowledge the project described above and as approved by the Board of Supervisors on _____.

NORTH SONOMA VALLEY SPECIFIC PLAN AMENDMENT

It is proposed to revise the *North Sonoma Valley Specific Plan* Land Use map on 20 acres located on a portion of the proposed inn parcel (Lot B) from Open Land and Residential designation to the Recreation designation.

ZONING CHANGE

It is proposed to rezone 291 acres from DA-B7-SR (Diverse Agriculture, Frozen Lot Size, Scenic Resource) to DA-B6-SR, 17 Acre Density to consider two subdivisions because the previously approved tentative map expired.

TECHNICAL CORRECTIONS ¹⁵

One technical correction is proposed to the *Sonoma County General Plan* and two technical corrections are proposed for the zoning designations. These are as follows:

- x Technical Correction to *General Plan* Land Use Map 9 to increase the area designated Recreation & Visitor Serving Commercial from approximately five acres on APN 051-020-019 to 20 acres located on a portion of the proposed inn parcel (Lot B).
- x Technical correction to the zoning map on 164.32 acres north of the Rancho Los Guilicos grant line to agree with *General Plan* density from RRD (Resources and Rural Development)-B6 60 acre density to RRD-B6 100 acre density.
- x Technical Correction to the zoning map to increase the area zoned K (Recreation & Visitor Serving Commercial) from approximately five acres on APN 051-0211-019 to 20 acres located on a portion of the proposed inn parcel (Lot B). ¹⁶

MAJOR SUBDIVISION

It is proposed to subdivide Lot C (117.1 acres) into 11 residential lots, all but one ranging in size from three to six acres. One lot is proposed to be approximately 71 acres.

USE PERMIT

A Use Permit is proposed to allow:

- x A 50-room inn with accessory retail shops, administrative offices, meeting rooms, and swimming pool, including a main lodge building and 19 cottages, occupying approximately 85,000 square feet. The inn has a projected occupancy of 100 persons, 119 employees (average 55 on-site), and 102 parking spaces;
- x A spa, for guests and open to the public by reservation, in a separate spa building with eight individual treatment rooms in separate cottages, and several hot tubs and small pools. Parking is shared with the inn;
- x A restaurant with seating capacity of 75 inside and 50 outside (125 total seats), accessory lounge serving inn guests and open to the public by reservation. Parking is shared with the inn; and
- x A winery, open to the public, with annual production capacity of 10,000 cases, with tasting room, wine retail sales, events area, and a separate “country store” selling Sonoma County produce, food, and assorted gift items. The winery and accessory buildings would occupy approximately

¹⁵ County staff has determined that certain errors have been made in the General Plan land use and zoning map designations for the Graywood Ranch. These errors are further described in *Chapter 4.0 Consistency with Public Plans and Zoning*. The technical corrections are proposed to correct the errors.

¹⁶ The project applicant has requested that 20 acres on the project site be designated K which is less than the previously approved 25 acres of K zoning.

40,000 square feet. The project proposes 30 special events per year with maximum 200-person attendance, to include weddings, meetings, winemaker dinners, and charitable auctions. Parking for the winery/events area consists of 147 spaces, and includes parking for visitors, inn and winery area employees, and public trail parking.

Elements of the Proposed Project

Graywood Ranch LP proposes to develop a 50-room inn, spa, restaurant, winery, and 11 residential lots on the 186 acre project site (see Exhibit 3.0-7 and Exhibit 3.0-8). It is proposed to divide the project site into a winery parcel, an inn parcel, and 11 residential lots as shown in Exhibit 3.0-9.

Exhibit 3.0-7 (11x17)

Exhibit 3.0-8 (11x17)

**EXHIBIT 3.0-9
SUMMARY OF DEVELOPMENT AREAS**

<i>Parcel/Lot</i>	<i>Acres</i>	<i>Use</i>
Parcel A	16.0	Winery
Parcel B	53.1	Inn
Lot 1	4.2	Residential
Lot 2	5.6	Residential
Lot 3	4.4	Residential
Lot 4	4.7	Residential
Lot 5	5.5	Residential
Lot 6	4.4	Residential
Lot 7	6.4	Residential
Lot 8	3.8	Residential
Lot 9	2.6	Residential
Lot 10	4.3	Residential
Lot 11	71.2	Residential
Total	186.2	

Source: Graywood Ranch LP

PROJECT DESCRIPTION

Inn/Spa/Restaurant

Inn

The project applicant proposes to construct a 50-room inn, in 19 separate cottage structures, with accessory retail shops, administrative offices, meeting rooms, and swimming pool, and a main lodge building on the plateau area of the project site. Exhibit 3.0-10 shows the layout of the inn, cottages and accessory uses. It is estimated that the structures composing the inn (including the spa) would total approximately 70,000 square feet -- 37,000 square feet in the cottages, 20,000 square feet in the main lodge, 7,000 square feet in the service/staff building and 6,000 square feet in the spa, (see Exhibit 3.0-11).

Exhibit 3.0-10 (11x17)

EXHIBIT 3.0-11
SQUARE FOOTAGE CALCULATIONS

<i>Description</i>	<i>Quantity</i>	<i>Unit Square feet</i>	<i>Total Square Footage</i>
Hotel			
Standard Room Upper	21	660	13,860
Standard Room Lower	21	669	14,049
One Bedroom Suite Upper	3	946	2,838
One Bedroom Suite Lower	3	957	2,871
Two bedroom suite	2	1,467	2,934
Total guestrooms	50		36,552
Main House Upper			11,696
Main House Lower			7,990
Main House total			19,686
Service/staff			7,225
Spa and Gym			6,265
Total Hotel			69,728
Winery			
Gallery			750
General Store			3,500
Events Pavilion			4,350
Barrel Storage			4,300
Entry Pavilion			400
Winery Offices			1,800
Fermentation			3,400
Storage / Mechanical			800
Staff & Maintenance			4,450
Total Winery			23,750

Source: Graywood Ranch LP

Exhibit 3.0-12 shows architectural concepts for the main house. Exhibit 3.0-13 shows architectural concepts for the cottages. As illustrated in Exhibits 3.0-12 and 3.0-13 exterior building materials, as proposed by the project applicant, include:

- x Roofs would be constructed of metal or slate tile
- x Typical walls would be cement plaster with a stone base
- x Timber trellis would be used on the buildings

The peak of the roof of the main house would be 35 feet above existing grade and the peak of the roof of the cottages would be 30 feet above existing grade. For both the main house and the cottages the top of the chimney would extend beyond the top of the roof. In addition to the inn's main house, which would be a combination of one and two story buildings, there would be a single story pool/cabana/fitness building and a single story spa building.

The inn has a projected occupancy of 100 persons, 119 employees (average 55 on-site), and 102 parking spaces.

Exhibit 3.0-12A

Exhibit 3.0-12B

Exhibit 3.0-13

The project proposes to construct 19 separate buildings with lodging units. The cottages would consist of seven building types as shown in Exhibit 3.0-14.

**EXHIBIT 3.0-14
 COTTAGE TYPES**

<i>Type</i>	<i>Total number</i>	<i>Description</i>	<i>Rooms</i>
A	2	Two deluxe rooms, single story building	4
B	5	Four deluxe rooms, single story building	20
C	2	Two deluxe room per building, two story building	4
D	2	Four superior rooms, two story building	8
E	1	Two superior rooms, single story building	2
F	5	Two one-bedroom suites per building, two story building	10
G	2	One two-bedroom suite per building, single story building	2
	19		50

Source: Graywood Ranch LP

Spa

A spa, for hotel guests and open to the public by reservation, would be constructed in a separate spa building with eight individual treatment rooms in separate cottages, and several hot tubs and small pools. Parking would be shared with the inn.

Restaurant

A restaurant with seating capacity of 75 inside and 50 outside (125 total seats), and an accessory lounge serving inn guests and open to the public by reservation. The restaurant would be located within the main inn building. Parking would be shared with the inn.

Winery

A winery, open to the public, with annual production capacity of 10,000 cases, with tasting room, wine retail sales, events area, and a separate “country store” selling Sonoma County produce, food, and assorted gift items is proposed. The winery area would be located at the toe of the slope to the plateau area about 1,800 feet from State Route 12. Exhibit 3.0-15 shows the layout of the winery.

Exhibit 3.0-15 (11x17)

Several separate buildings would make up the winery area including:

- x Gallery
- x General Store
- x Events Pavilion
- x Barrel Storage
- x Entry Pavilion
- x Winery Offices
- x Fermentation
- x Storage/Mechanical
- x Staff and Maintenance

Exhibit 3.0-16 shows architectural concepts for the winery. As illustrated in Exhibit 3.0-16, exterior building materials, as proposed by the project applicant, include:

- x Metal roofs
- x Typical walls would include wood siding and stone

The highest peak of the roof of the winery would be 35 feet above existing grade. A cupola would extend beyond the top of the roof.

It is estimated that the structures composing the winery would total approximately 23,750 square feet as shown in Exhibit 3.0-11. All of the buildings in the winery would be single-story.

The project proposes 30 special events per year with maximum 200-person attendance, to include weddings, meetings, winemaker dinners, and charitable auctions.

A total of 147 parking spaces are proposed for the winery.

Residential Lots

Eleven residential lots are proposed. Ten of the residential lots range in size from 2.6 acres to 6.4 acres with the eleventh lot being 71.2 acres. For each of the residential lots a building envelope and leachfield site has been designated. The majority of the building envelopes are approximately 15,000 to 20,000 square feet (0.34 to 0.46 acre) in size. On three of the residential lots (lots 4, 7, and 11) an alternative building envelope is designated. The locations of the building envelopes are shown on Exhibit 3.0-8.

Trail

The project application includes an offer of a public trail easement, dedicated to Sonoma County, connecting Hood Mountain County Park down to the winery through this portion of the Graywood Ranch property, with public parking located in the winery/events area.

The project applicant does not propose to construct the trail. Rather the applicant would dedicate the right of way along the west side of Road A to residential lot 7 and then along the property line of residential lot 7 to residential lot 11. It would be the County's responsibility to determine the route for the trail from residential lot 11 to the northern property line. Parking for the trail (12 parking spaces for automobiles plus two horse trailer parking spaces) would be provided in the winery parking lot.

Exhibit 3.0-16

Access and Parking

Access to the project site currently is by an existing unpaved road off State Route 12 which is located about 300 feet west of Lawndale Road.

It is proposed that the existing road be upgraded and that it would remain the access to the proposed project. At the project entrance on eastbound State Route 12, a left turn is proposed with stacking space to accommodate turning vehicles. The west bound entry would also have an acceleration taper for project traffic merging with through traffic; east of the entry a deceleration taper would be provided for slower traffic entering the project site.

On-site the main entry road (Road A on Exhibit 3.0-7) would provide access to the *Sonoma Country Inn* project plus access to the remaining balance of the Graywood Ranch. The main road would be built with a 22 foot width and two-foot shoulders on both sides. Space for a six to eight foot wide path is shown on one side of Road A. Road A would be located on the *Sonoma Country Inn's* side of the line dividing the two ownerships with an easement over the roadway to the rest of Graywood Ranch.

Road A would extend from State Route 12 to the juncture with the roadway extending from the southwest corner of residential lot 5 northerly and easterly around residential lots 5 and 6 and extending to residential lot 7. It is proposed that the pavement width of Road A would be reduced to 20 feet in certain areas adjacent to the Graywood Creek to allow more effective use of the available space and to limit the height of the cut banks.

The existing on-site road includes an at grade crossing of the "blue line" stream (Graywood Creek). It is proposed to abandon the existing grade crossing of the stream and construct a new bridge over the stream. The new bridge is proposed to be a bottomless steel culvert or aluminum arch bridge.

At the intersection with State Route 12 Road A would be improved to three lanes: two exit lanes for the east (left turn) and west (right turn) and one lane for inbound traffic (see Exhibit 3.0-17).

In addition to Road A a secondary road (Road B) would provide access to residential lots 5, 6, 7, 10 and 11 and to the inn/spa/restaurant (see Exhibit 3.0-7). Road B would be constructed with a 20 foot width with two-foot shoulders on both sides. Access to residential lots 1, 2, 3, 4, 8, and 9 and the winery would be provided by driveways off of Road A and Road B. Driveways would be constructed with a 12 to 18 foot paved surface with two-foot shoulders on both sides.

All roads and driveways would conform to the appropriate Sonoma County standards. Road grades are proposed to be within County standards at less than 15 percent, allow for two-way traffic, and would be paved with an asphalt surface. Where necessary, all roads would be within easements providing access to all lots. Turnouts would be constructed at road ends or as approved by the County Fire Marshall.

Parking

A total of 102 parking spaces would be provided for the inn/spa/restaurant. The parking spaces would be provided in six separate parking lots ranging in size from 11 parking spaces to 36 parking spaces.

Parking for the winery/events area would consist of 147 spaces, and would include parking for visitors, inn and winery area employees, and public trail parking.

Exhibit 3.0-17

Sewage Disposal

The proposed project would utilize subsurface systems for sewage disposal. The residential lots would each contain an identified/tested area for a septic system, as would the winery parcel. The inn parcel would utilize such systems which would be located on the valley floor part of the parcel. Exhibit 3.0-8 shows those areas proposed for sewage disposal for each lot/use. The winery process wastewater would be disposed of via a subsurface system subject to all applicable regulations.

Fire Protection/Management

The degree of fire hazard for the project site is rated as high to very high based on the General Plan Safety Element.

Slopes/Vegetation

The inn/spa/restaurant and residential lots are proposed for the more level areas of the plateau thereby avoiding development on the steeper slopes. Vegetation removal of dense and overgrown forest in the plateau would be necessary to decrease fire hazard. Vegetation removal in areas such as the inn and winery would also be needed to reduce the buildup of fuels. The home sites, in the forested areas, would require vegetation removal and management around them.

No change in or removal of vegetation is proposed on the steeper sloping part of residential lot 11. A fire break or other approved method would be constructed to separate the plateau area development from the steeper slopes to the north.

Water System

All of the project components would be served by a pressurized system with the required storage and spaced fire hydrants. Line sizes and flow rates would meet County fire standards.

Access

All roads would be built to County fire standards, typically 20 to 22 feet with asphalt. Turnarounds to accommodate emergency vehicles would be constructed at the end of each road. The main road would be approximately one mile in length as measured from State Route 12 to the inn/spa/restaurant.

Fire Agency

The project site is within the Kenwood Fire District with its station located about two miles east; response time is approximately ten minutes. Wildland fire protection would be provided by the California Department of Forestry (CDF) with its station located about four miles east and an estimated response time of five to ten minutes.

Building Materials

All structures would be constructed to applicable fire codes including Class "A" roofs. Building overhangs and decks would be closed-in to prevent spread of fire. Exterior building materials would emphasize fire resistance.

*Sprinklers*¹⁷

All residences (regardless of size) and the inn would be constructed with interior sprinklers. This proposal is to compensate for any length of access road in excess of the stated standard or any other permitted variation to the Fire Standards.

Water System

Each of the individual components of the project (inn/spa/restaurant, winery, and residential units) would be served by/connected to one or more on-site water systems utilizing wells, storage, fire hydrants, adequate line size for required flow rates and sprinkler use. Locations for water storage tanks and proposed wells are shown on Exhibit 3.0-7.

A water storage tank location is shown on residential lot 10 and an alternative water tank location is shown on residential lot 7.

Utilities (electric, natural gas, and telephone)

Electric power would originate from the current end of line at the existing residences or at State Route 12. Any line extensions from either location would be underground to required specifications.

Natural gas would be provided at each homesite and at the inn/spa/restaurant.

Telephone service would generally parallel electric service routes and would also be underground.

Public Services

Fire

The project site is within the Kenwood Fire District with its station located about two miles to the east.

Schools

The project site is within the Kenwood Elementary School District and the Santa Rosa School District for middle and high schools.

Sheriff

Law enforcement is provided to the project site by the Sonoma County Sheriff's Department.

Conditions, Covenants, & Restrictions

The residential lots would be governed by a Homeowners' Association which would have the authority to manage and regulate aspects of the property. A detailed set of Conditions, Covenants, & Restrictions (CC&Rs) would be prepared for review and approval by Sonoma County prior to the project's Final Subdivision Map being recorded.

¹⁷ On February 25, 2003, the Sonoma County Board of Supervisors adopted an upgraded fire sprinkler ordinance that will require fire sprinkler systems in all new residential dwellings and in all new commercial buildings within the unincorporated areas of the County.

A component of the Homeowner's Association would be a Design Review Committee which would review and approve design of homes and any other structures on the residential lots. Consisting of at least an architect and landscape architect, the Design Review Committee would set the standards and apply those standards as the lots are developed. A major goal of this Committee would be to minimize the view of any homes from State Route 12 or public roads. This would be done, in part, by regulation of structure height, color, materials, siting, and vegetation removal.

The CC&Rs would cover such areas as:

- x Property Rights and Obligations of Owners
- x Homeowners' Association
- x Design Committee
- x Exterior Maintenance Responsibilities
- x Use of Properties and Restrictions

Fencing

It is proposed that fencing would be kept to a minimum on the project site. Only the immediate building envelope for the individual residential lots would be permitted to be fenced; typical property line fencing would not be permitted. The inn and winery parcels would not be fenced; however, the immediate areas around the buildings/landscaped areas may be fenced. Where fencing would occur in these areas it would be of the type to allow passage of smaller animals with a mesh type no smaller than six inches square or as approved by the applicable public agencies.

Vegetation Preserves ¹⁸

As shown on Exhibit 3.0-7 the project proposes four vegetation preserves on the project site. It is proposed that the preserves would be established through the CC&Rs to which the county would be a third party beneficiary. The CC&Rs would describe permitted and prohibited uses and on-going management of each preserve. The four preserves are described below:

Valley Oak Tree Preserve

This preserve contains two stands of valley oaks in the south area of the project site near the Highway 12. The cutting of any trees within the Oak Tree Preserve would be prohibited as would incompatible uses which could threaten the integrity of the preserve, including a prohibition on wastewater discharge.

Perennial Grassland Preserve

A perennial grassland preserve would be established along a portion of the eastern property line in the south area. Ground disturbance (after initial removal of invasive species), access or vegetation removal would be prohibited in this preserve.

¹⁸ The plants that are to be preserved are further described in *Section 5.6 Biological Resources*.

Sonoma Ceanothus Preserve

In the north area a colony of several thousand Sonoma Ceanothus are to be preserved. No ground disturbance within the preserve and no vegetation removal are to be permitted. Vehicle access to the preserve would be strictly controlled.

California Brodiaea Preserve

In the west area of the plateau a colony of several hundred California Brodiaea plants are to be preserved. No ground disturbance or vehicle access within the preserve and no vegetation removal are to be permitted.

Number of Employees

It is estimated that the hotel would have 96 full time employees; the spa would have 23 full time employees and the winery six full time employees. The number of employees per shift is shown in Exhibit 3.0-18. During events at the winery hotel workers would staff the event facilities. It is likely that at events there would be up to three additional part-time parking attendants.

**EXHIBIT 3.0-18
 NUMBER OF EMPLOYEES**

Use and Shift	Number of Employees
Hotel	
Shift #1 7:00 AM – 3:00 PM	42
9:00 AM – 5:00 PM	8
Shift # 2 3:00 PM – 11:00 PM	40
Shift # 3 11:00 PM – 7:00 Am	6
Subtotal	96
Spa	
Shift #1 7:00 AM – 3:00 PM	12
Shift #2 12:00 PM – 8:00 PM	9
Shift # 3 8:00 PM – 4:00 AM	2
Subtotal	23
Winery	
Shift # 1 8:00 AM – 5:00 PM	6
Subtotal	6
Total	125

Source: Graywood Ranch LP

3.3 CUMULATIVE DEVELOPMENT ASSUMPTIONS

This EIR assesses the effects of implementing the proposed project under existing environmental conditions and under anticipated future "cumulative" conditions. Cumulative impacts are defined by CEQA to include impacts of little or no consequence when taken alone but which when combined with expected environmental conditions would have a significant effect. The list of cumulative projects includes 12 projects that are approved, under review, or under construction, or are reasonably expected to be proposed in the vicinity of the site at the time Sonoma County issued the Notice of Preparation to prepare a Draft EIR for the proposed project. The list of projects is presented below and the approximate locations of cumulative projects are shown in Exhibit 3.0-19.

- x **Annadel Vineyards Partners** – Use permit for a 50,000 cases per year winery with tasting, tours and retail sales by appointment only. Winery would be developed in two phases and includes the construction of a 20,000 square foot winery and up to 16,000 square feet of caves. The property is located at 6545 State Route 12, Santa Rosa.
- x **Mobius Painter Winery** – Use permit for a 150,000 cases per year winery with public tours, tasting and retail sales. Tasting room hours are 10:00 AM to 4:30 PM on weekends and holidays and 10:00AM to 4:00 PM on weekdays. The property is located at 6705 State Route 12, at the intersection of State Route 12 and Oakmont Drive.
- x **Landmark Winery** – Use permit to increase the annual production capacity to 35,000 cases per year at an existing winery with no new construction, and to allow for 13 special events per year (including weddings) with 50 guests maximum per event with no outdoor amplified music. The property is located at 8211 State Route 12, and 101 and 205 Adobe Canyon Road.
- x **Blackstone Winery (St. Francis Winery former site)** – Use permit to expand production capacity at an existing winery from 14,000 cases/year to 125,000 cases/year and to permit up to ten special events/year for up to 200 persons per event. The project site is located at 8450 State Route 12.
- x **St. Francis Winery & Vineyards** – Use permit for 35 special events per year at an existing winery on 82.0 acres. Maximum attendance at each event would be 200 persons. The property is located at 500, 550 and 100 Pythian Road.
- x **Chateau St. Jean Winery** – Use permit to authorize an increase in annual production capacity from 250,000 cases to 750,000 cases annually and associated remodeling of the existing winery facility. The property is located at 8555 State Route 12 and 843 St. Jean Court
- x **Chateau St. Jean Winery** – Use permit to allow 24 events per year with 50 to 450 guests and six events per year with 451 to 2,000 people per year. The property is located at 8555 State Route 12 and 843 St. Jean Court.
- x **Korbel (Kenwood Winery)** – Use permit to increase the maximum annual production at an existing winery from 125,000 cases to 500,000 cases. The only construction would be the addition of ten tanks directly adjacent to the existing tanks behind the winery. The majority of the barrel and case good storage would be moved off site. The property is located at 9592 State Route 12.

- x **Kenwood Inn** --- Use permit to allow for the expansion of the Kenwood Inn from 12 to 36 guest units (24 additional guest units) and a registration/reception/meal area to be contained in six buildings totaling 13,630 square feet. The property is located at 10400 and 10401 State Route 12.
- x **Las Ventanas Sonoma** –The proposed project is a 98-room resort and spa (for guest use only) with a 180-seat restaurant. The project site is immediately west of the existing Chateau St. Jean Winery on State Route 12. The project would be located on a 27-acre portion of the site. The project would include 25 guest cottages, a restaurant/reception building, a spa building and a housekeeping/maintenance building. Guest parking would be located in a single parking area.
- x **Oakmont Planned Community** -- 140 single family units at State Route 12 and Pythian Road, on the west side near Oakmont (in the City of San Rosa). These are proposed as a part of the Oakmont Planned Community, a senior citizen community.
- x **Graywood Ranch Subdivision** – This project proposes six parcels on the westerly 290 acres of the 476-acre Graywood Ranch. Four residences and one second unit currently exist on the 290 acres, and the subdivision would permit three additional residential units to be constructed on newly proposed vacant parcels. One parcel (Lot 4) would contain two homes and the second units, for a total of seven residential units on the western portion of the Graywood Ranch property (not counting second units). Access to the seven residential units (on six lots) from State Route 12 would be via the main access road proposed to serve the Sonoma Country Inn.

3.4 ADMINISTRATIVE ACTIONS

The Lead Agency for this EIR is Sonoma County. A number of other agencies will have discretionary approvals related to the proposed project. A *Responsible Agency* includes “all public agencies other than the Lead Agency which have discretionary approval power over the project”.¹⁹ A *Trustee Agency* is a “state agency having jurisdiction by law over resources affected by the project which are held in trust for the people of the State of California”.²⁰ Responsible and Trustee Agencies for the *Sonoma Country Inn* project include:

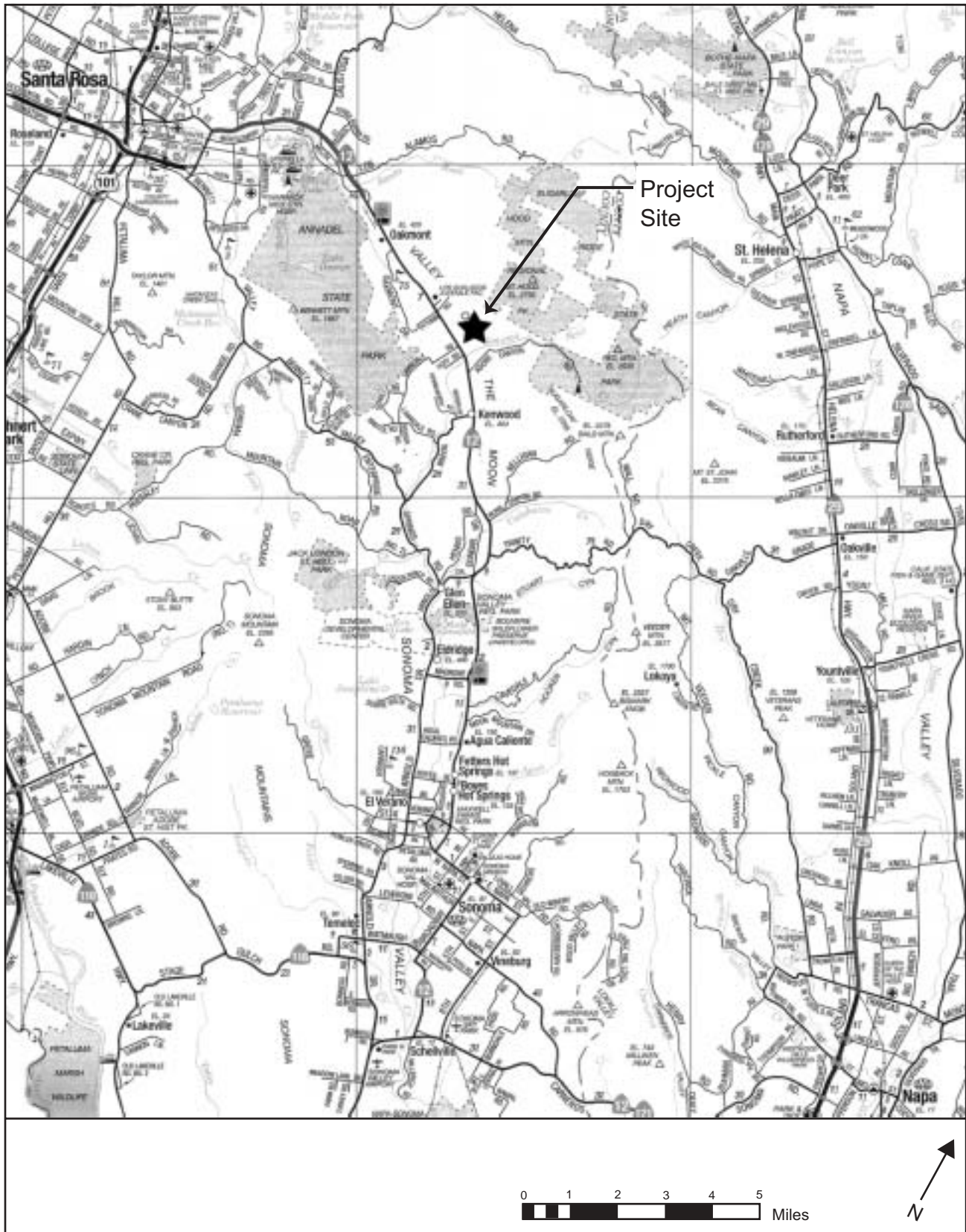
- x San Francisco Bay Regional Water Quality Control Board (Wastewater Discharge Permit/Section 401 Certification)
- x California Department of Fish and Game (1603 Permit)
- x State Department of Health Services through Sonoma County Health Department (Public Water Supply Permit/Public Pool Permit/Retail Food Permit/Hazardous Materials Business Plan)
- x State Office of Emergency Services through Sonoma County (Hazardous Materials Business Plan)
- x California Department of Transportation (Encroachment Permit)

¹⁹ *State CEQA Guidelines*, Section 15381.5.

²⁰ *State CEQA Guidelines*, Section 14386.

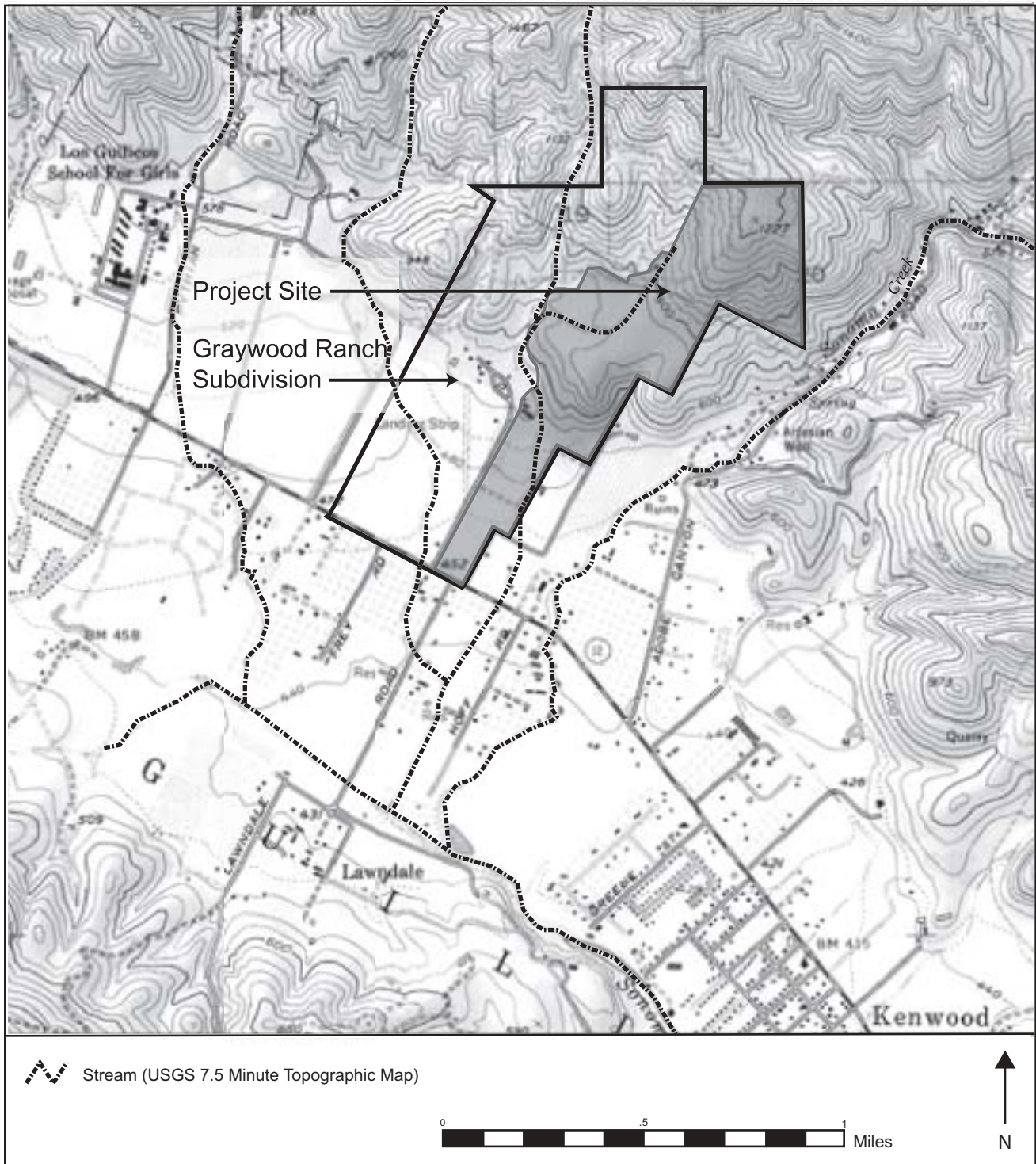
Exhibit 3.0-19

**EXHIBIT 3.0-1
REGIONAL LOCATION**



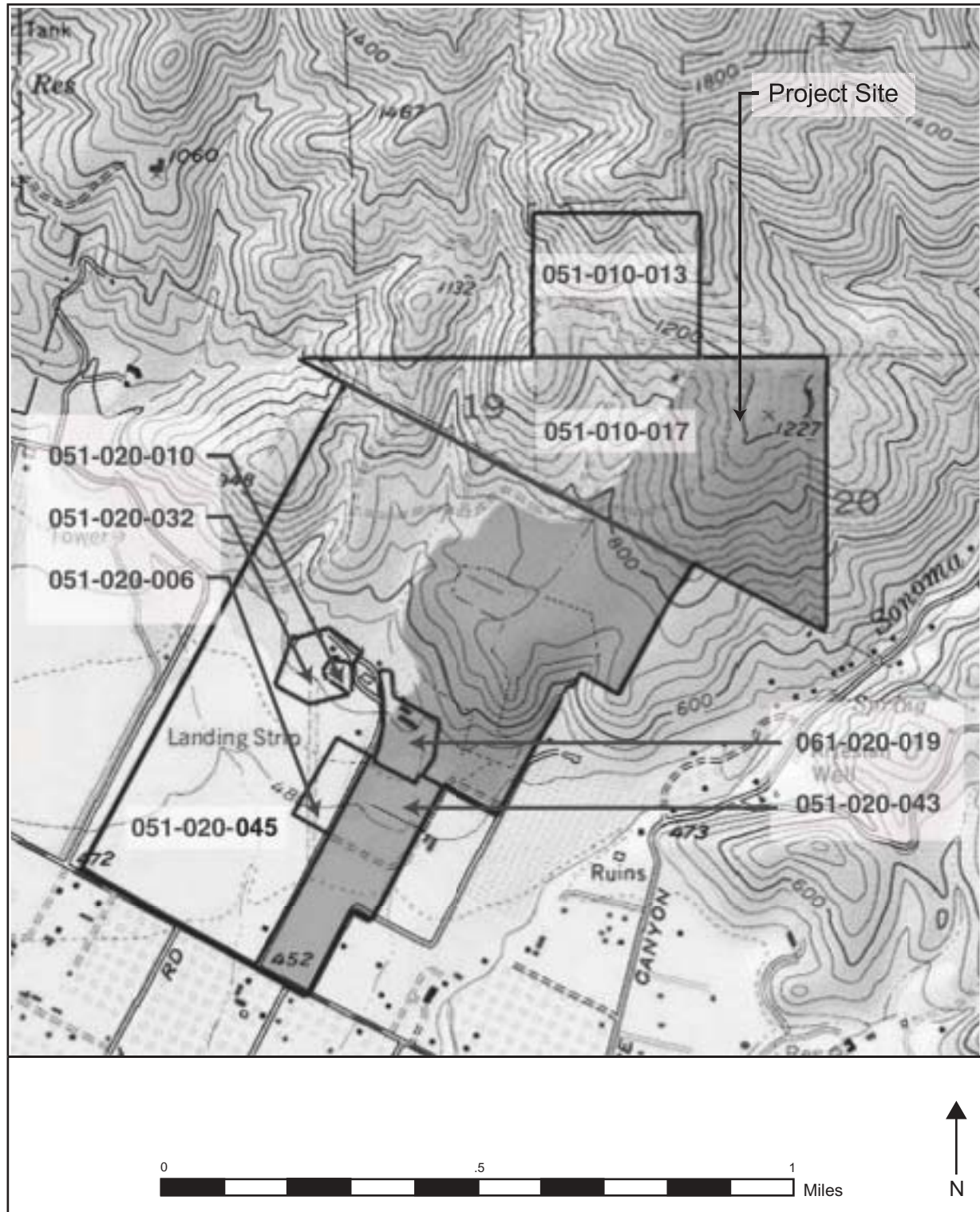
Source: California State Automobile Association

**EXHIBIT 3.0-2
PROJECT SITE**



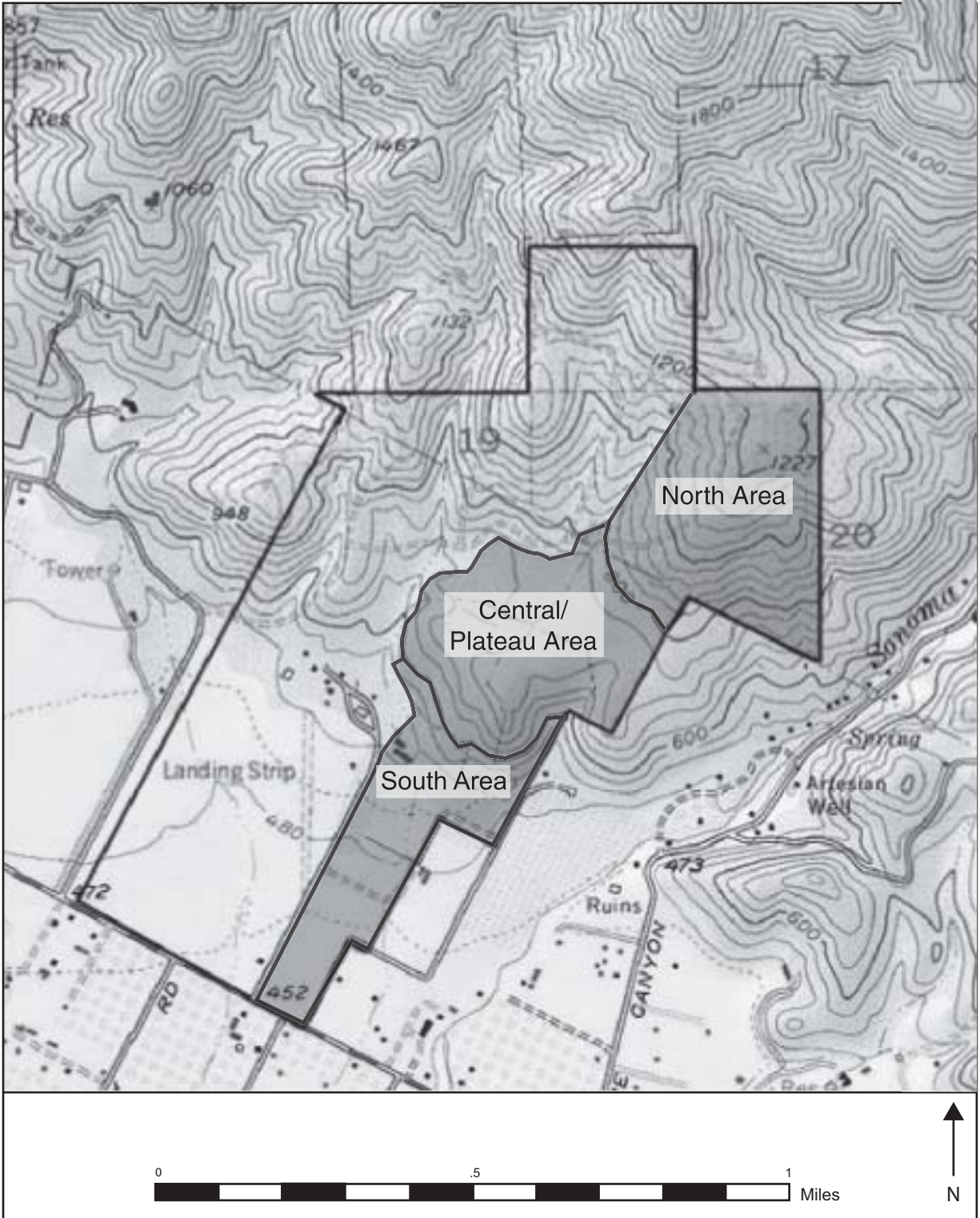
Source: Topo! National Geographic

**EXHIBIT 3.0-4
LOCATION OF ASSESSOR'S PARCELS**



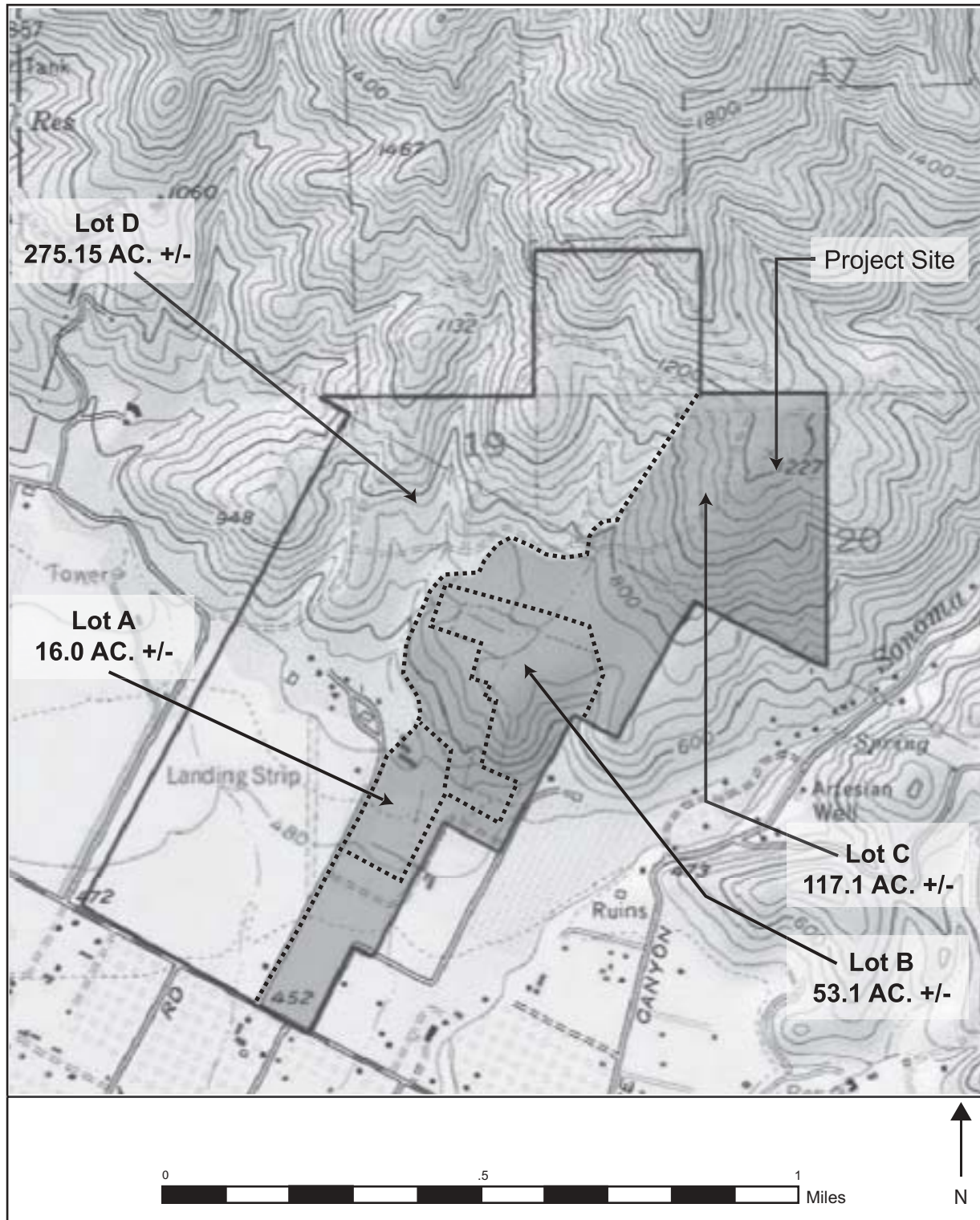
Source: Topo! National Geographic

**EXHIBIT 3.0-5
PROJECT SITE SUBAREAS**



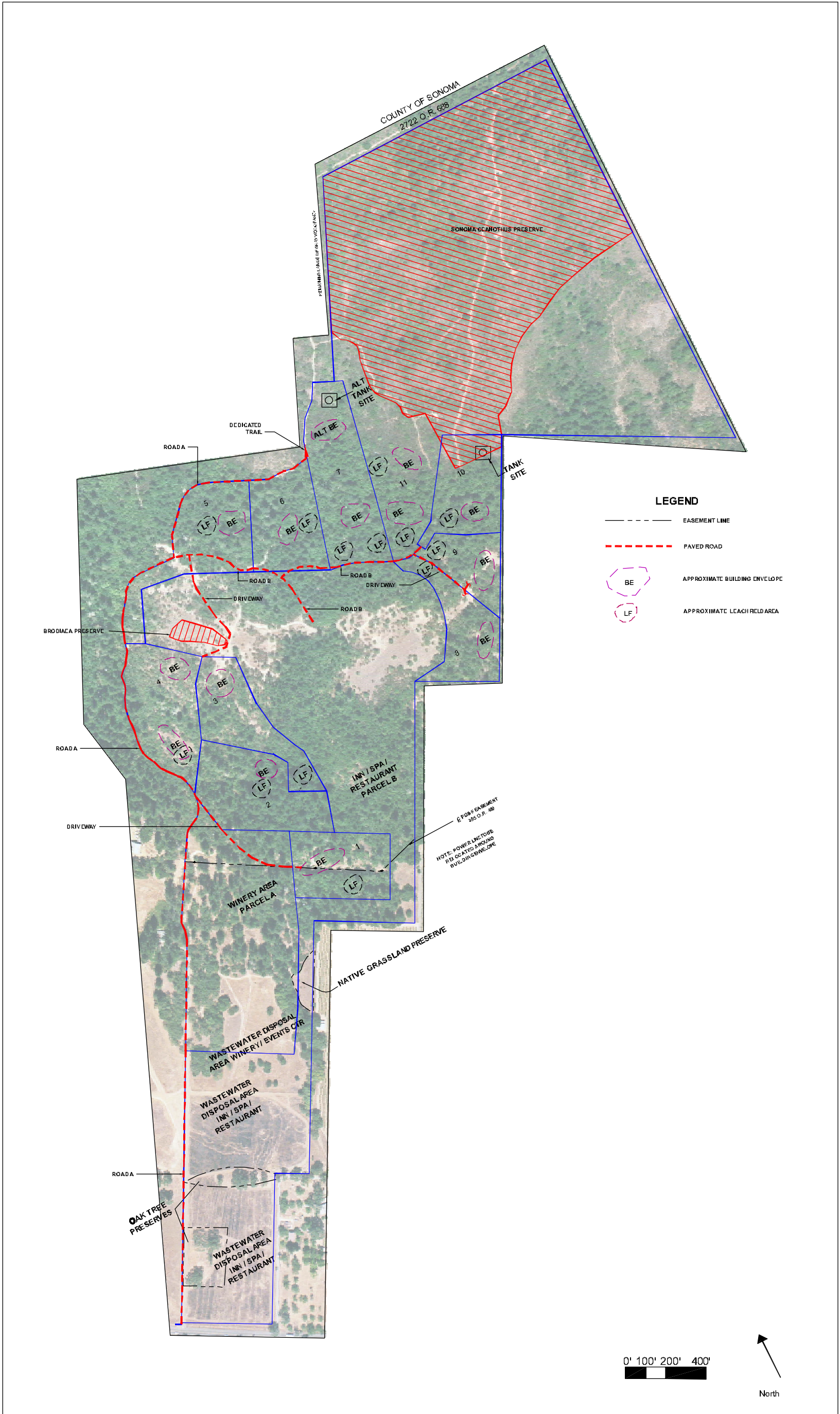
Source: Topo!/National Geographic

**EXHIBIT 3.0-6
LOT LINE ADJUSTMENT**

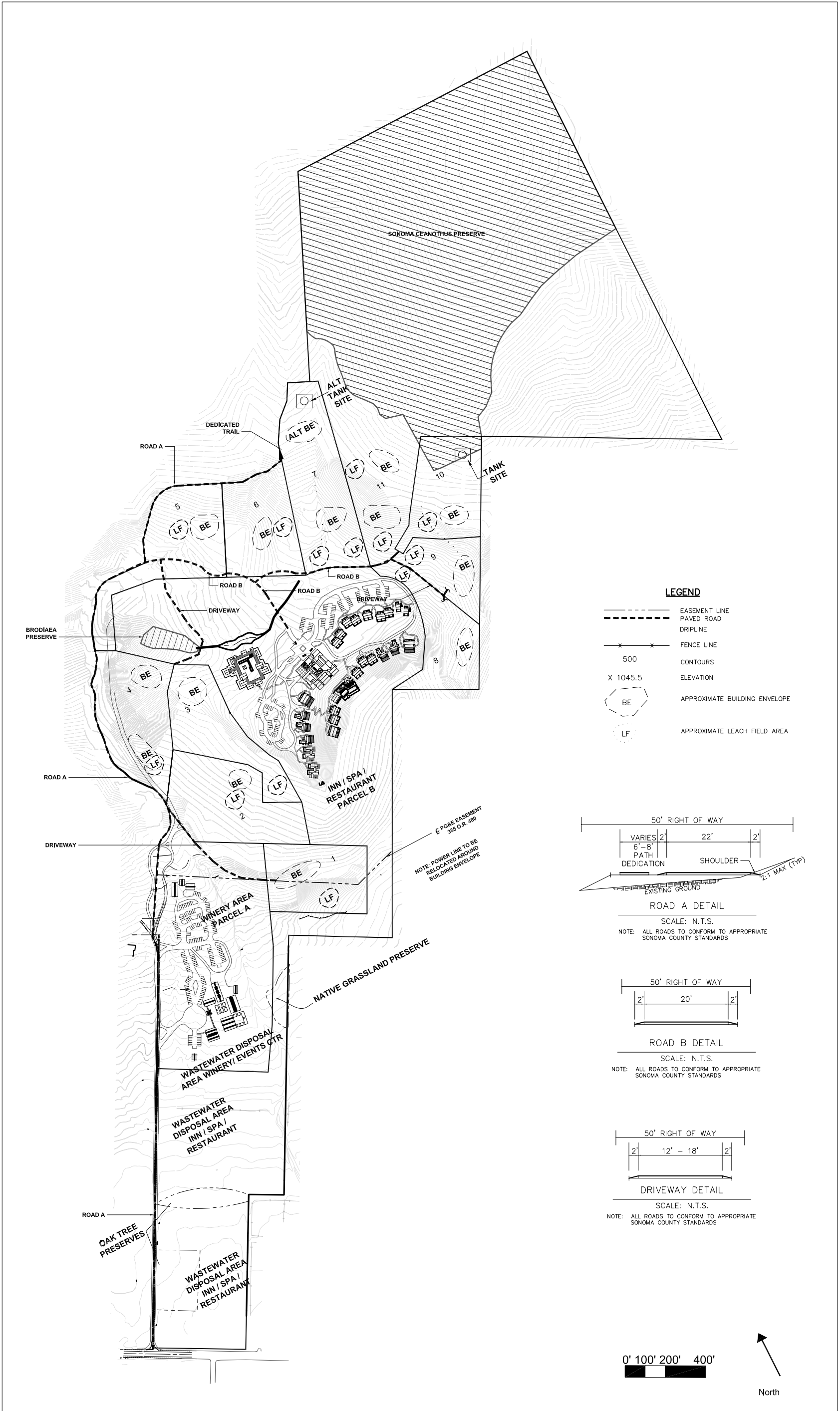


Source: Topo! National Geographic and Ray Carlson & Associates

**EXHIBIT 3.0-7
SONOMA COUNTRY INN DEVELOPMENT PLAN**

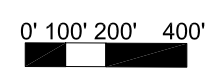
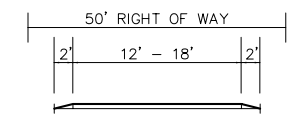
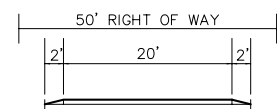
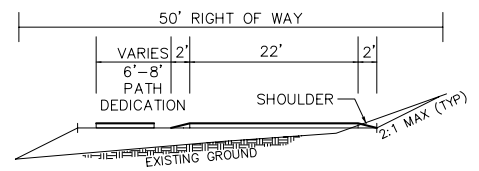


**EXHIBIT 3.0-8
SONOMA COUNTRY INN TENTATIVE MAP**

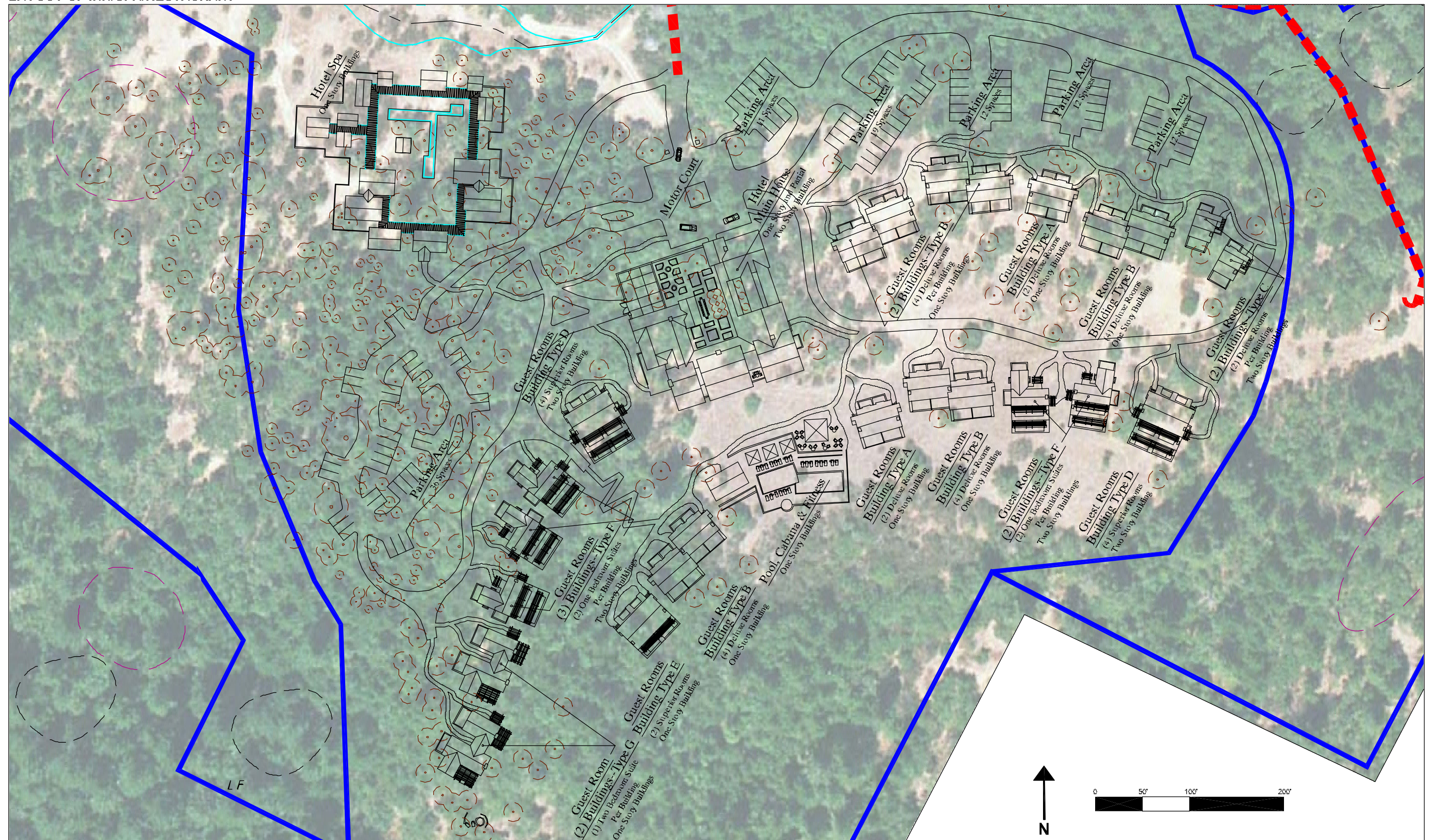


LEGEND

- EASEMENT LINE
- PAVED ROAD
- DRIPLINE
- FENCE LINE
- 500 CONTOURS
- X 1045.5 ELEVATION
- BE APPROXIMATE BUILDING ENVELOPE
- LF APPROXIMATE LEACH FIELD AREA



**EXHIBIT 3.0-10
LAYOUT OF INN/SPA/RESTAURANT**



Source: Ray Carlson & Associates, INC

EXHIBIT 3.0-12A
CONCEPTUAL ELEVATIONS - MAIN HOUSE



Southeast Elevation



Northwest Elevation



3.0 - 22

EXHIBIT 3.0-12B
CONCEPTUAL ELEVATIONS - MAIN HOUSE

3.0 - 23

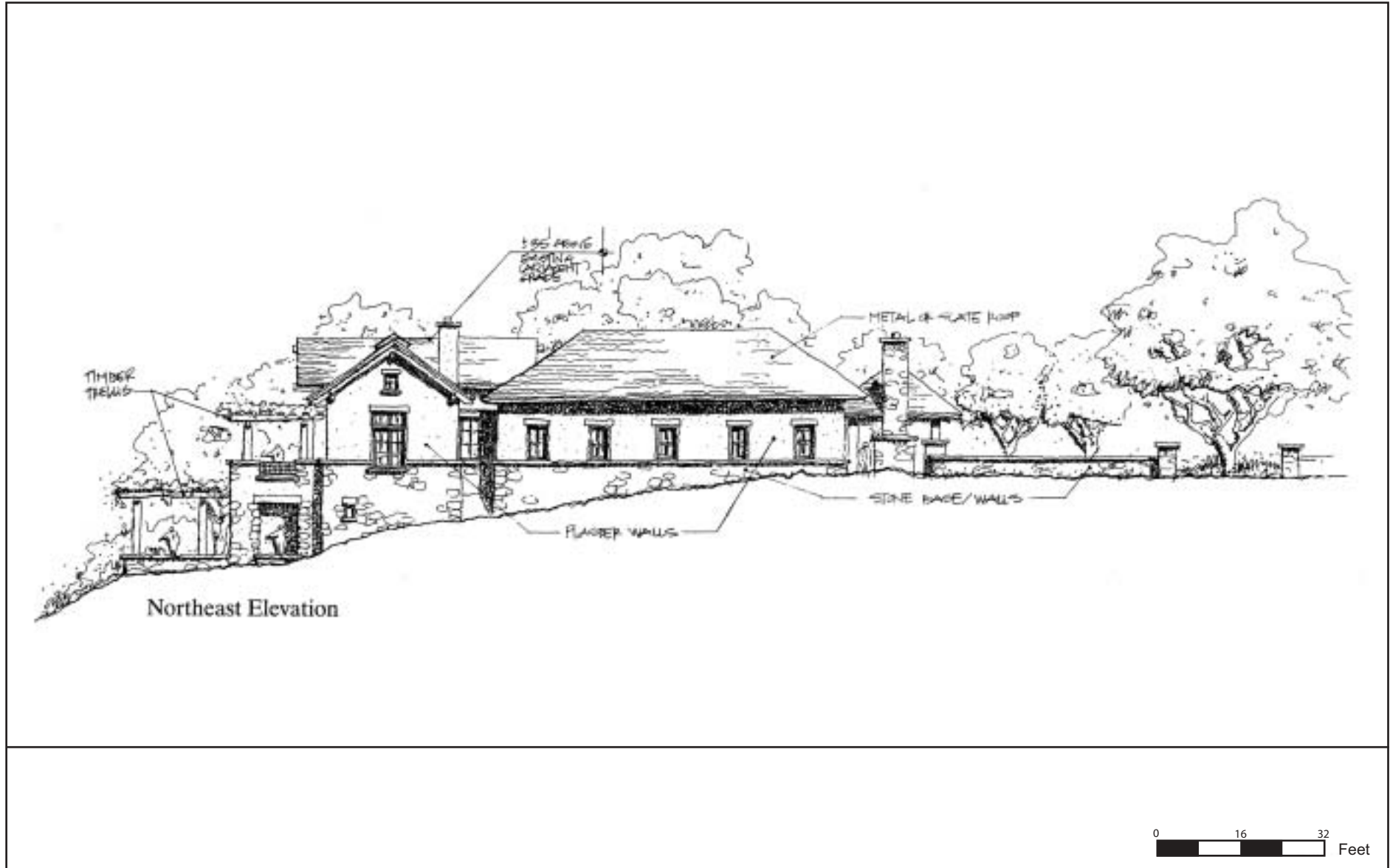
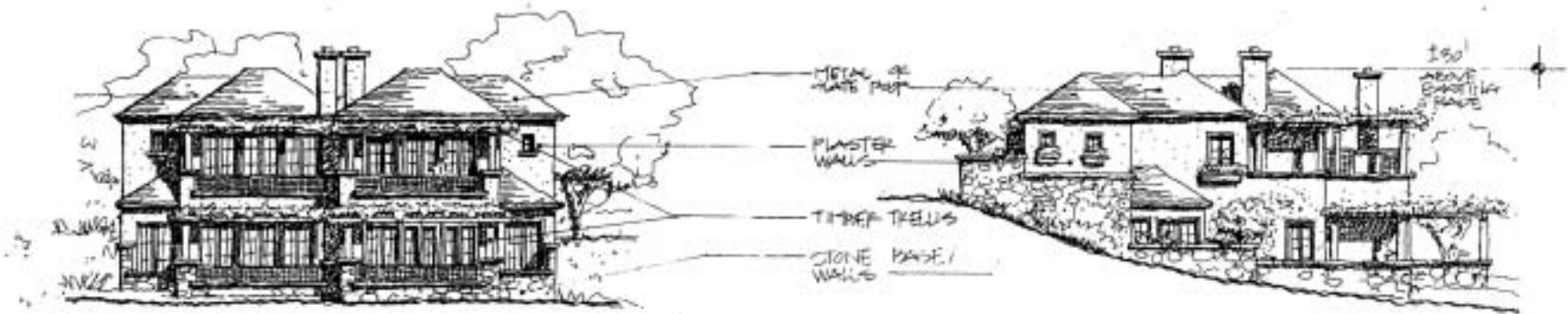


EXHIBIT 3.0-13
CONCEPTUAL ELEVATIONS - TYPICAL COTTAGES



Entry Elevation

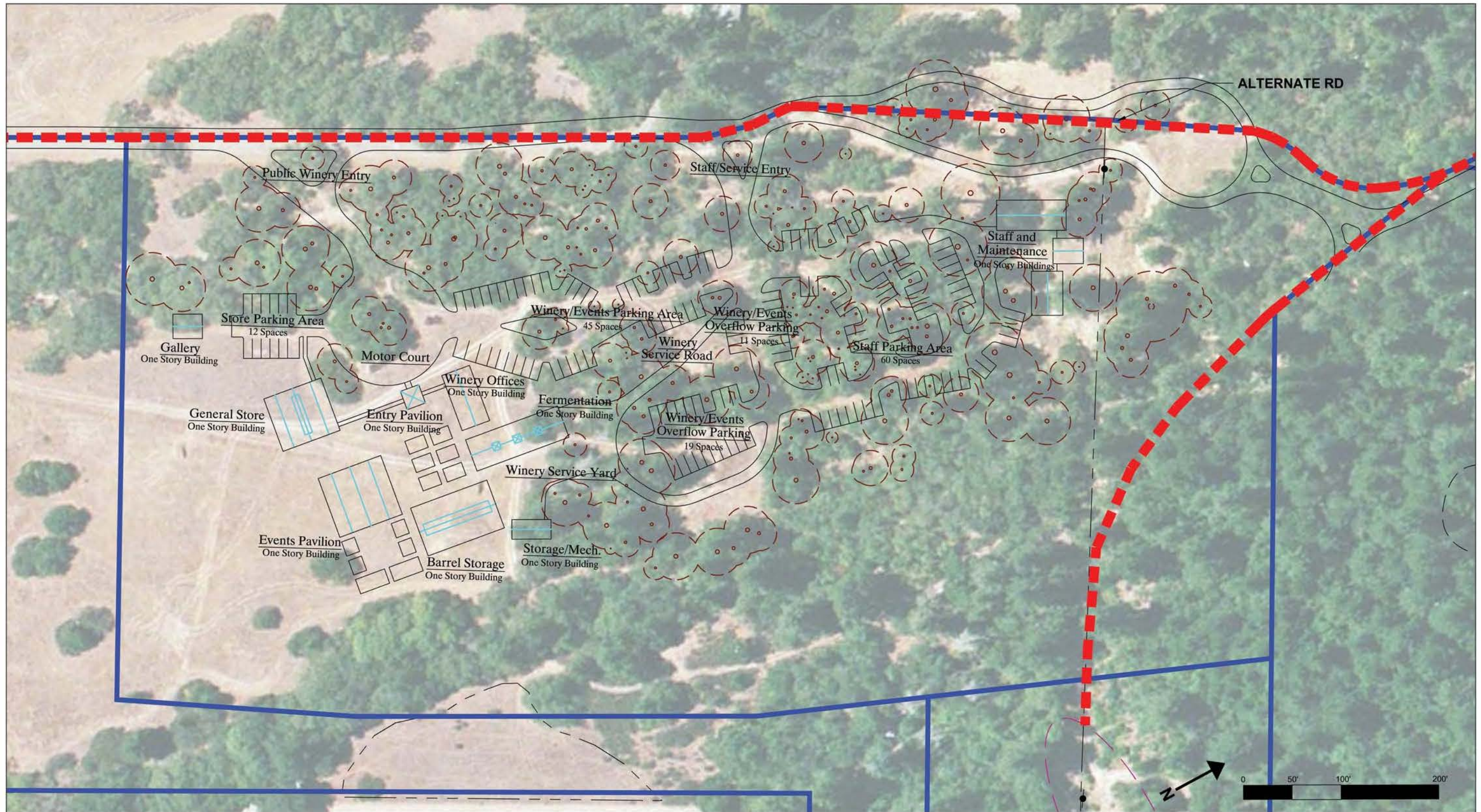


Front Elevation

Side Elevation



**EXHIBIT 3.0-15
LAYOUT OF WINERY**

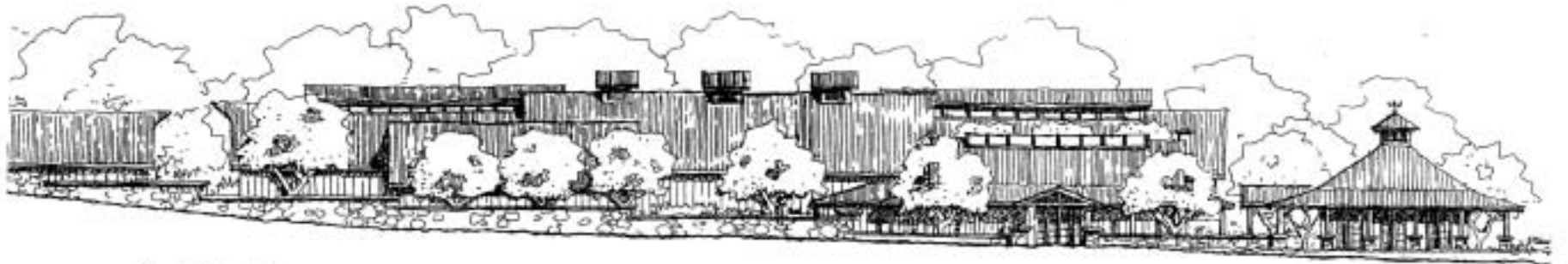


Source: Ray Carlson & Associates, INC

EXHIBIT 3.0-16
CONCEPTUAL ELEVATIONS - WINERY



South Elevation

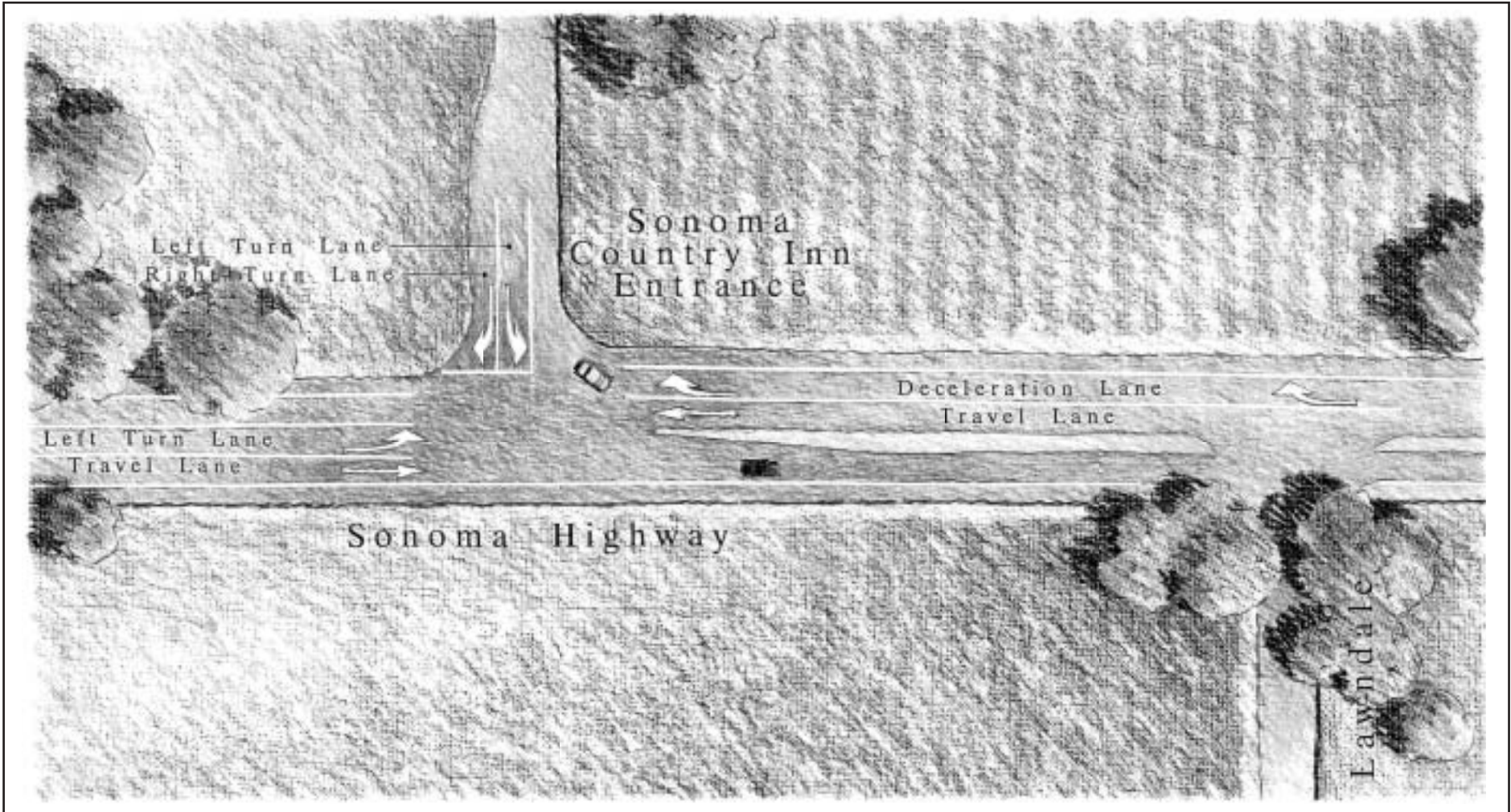


East Elevation



3.0 - 28

EXHIBIT 3.0-17
PROJECT ACCESS ROAD/STATE ROUTE 12 INTERSECTION



3.0 - 30

Not to scale

EXHIBIT 3.0-19
LOCATION OF CUMULATIVE PROJECTS



3.0 - 37

Source: County of Sonoma Permit and Resource Management Department

4.0 CONSISTENCY WITH PUBLIC PLANS AND ZONING

INTRODUCTION

The *State CEQA Guidelines* require EIRs to "... discuss any inconsistencies between the proposed project and applicable general plans and regional plans".¹ This chapter presents an analysis of the proposed *Sonoma Country Inn* project's consistency with adopted public plans and zoning in order to determine the extent to which the project would be consistent or would conflict with policies and zoning. One objective of this analysis is to provide information to find ways to modify the project to reduce any identified inconsistencies with relevant plans and policies. The project is examined in relation to policies and provisions of the:

- x *Sonoma County General Plan*
- x *North Sonoma Valley Specific Plan*
- x *Sonoma County Zoning Ordinance*

General Plans articulate long-term goals and policies for economic growth, proposed use of land, development of infrastructure, conservation of resources, preservation of open space and related issues (see Government Code sections 63300 and 65302). A project does not need to be consistent with every policy of a general plan; rather, it must be "generally consistent" and "in harmony".

State law does not impose a requirement that a project completely satisfy every policy stated in the general plan. The goals, objectives, and policies in a general plan set the stage for later decision making. A general plan "must try to accommodate a wide range of competing interests... and to present a clear and comprehensive set of principles to guide development decisions. Once a general plan is in place, it is the province of elected officials to examine the specifics of a proposed project to determine if it would be "in harmony" with the policies stated in the plan."² Recognizing the plan provisions would ordinarily provide policy guidance on a range of issues, rather than mandatory, objective regulatory standards, the courts have recognized that the decision-maker must weigh plan policies when applying them, and that the law does not require every policy be completely satisfied.³ However, in some instances general plans contain fundamental, mandatory, and objective standards that do not allow any discretion in interpretation and application. A project will be found inconsistent with such a standard if it is clearly incompatible with it.⁴

¹ *CEQA Guidelines*, Section 15125(d).

² *Sequoyah Hills Homeowners Assn. v. City of Oakland*, 23 Cal. App. 4th 704,791, summarizing from *Greenbaum v. City of Los Angeles*, 153 Cal. App. 3d 391.

³ *Ibid.*

⁴ *Families Unafraid to Uphold Rural El Dorado Co. v. El Dorado County*, 62 Cal.App.4th 1332 (1998).

Consistency Determination

The discussions provided below represent the EIR authors' best judgment of the policies examined. **Sonoma County ultimately must determine the project's consistency with County policies before taking action to approve, conditionally approve, or deny the pending application.** (Other responsible agencies similarly must determine the project's consistency with their relevant policies when reviewing and commenting on or taking action on the project.) The discussion in this EIR is intended to aid in these decisions.

While CEQA requires a discussion of consistency with public plans, inconsistency does not necessarily lead to a significant impact. Inconsistencies with public plans create significant impacts under CEQA only when an *adverse physical effect* would result from the inconsistency. All adverse physical effects resulting from any inconsistency are discussed in the appropriate environmental analysis in the EIR (in *Chapter 5.0 Environmental Setting, Impacts, and Mitigation Measures*). The location of these environmental analyses is referenced in each policy discussion, as appropriate.

4.1 SONOMA COUNTY GENERAL PLAN

The *Sonoma County General Plan*⁵ is the County's guide for all development in the unincorporated areas of Sonoma County. The *General Plan* identifies goals, objectives and policies in ten areas:

- x Land Use
- x Housing
- x Open Space
- x Agricultural Resources
- x Resource Conservation
- x Public Safety
- x Circulation and Transit
- x Air Transportation
- x Public Services
- x Noise

The *General Plan* establishes nine planning areas in the county in order to define further specific area and parcel policies. The *Sonoma Country Inn* project site is in the Santa Rosa Planning Area.

In 1984 Sonoma County approved a tentative map and rezoning project on the Graywood Ranch that consisted of the following:

- x a 36-room inn and associated dining hall on a 25-acre "inn parcel"
- x a separate eight-acre "winery parcel"
- x a 107-acre "agricultural" parcel labeled "not a residential lot" on the tentative map

⁵ *Sonoma County General Plan*, adopted by the Sonoma County Board of Supervisors on March 23, 1989, as amended through March 1, 1994.

- x a 255-acre “remnant parcel” labeled “existing home to remain” on the tentative map
- x 18 additional rural residential parcels

No specific actions have been taken to develop Graywood Ranch pursuant to the 1984 approval. The Board of Supervisors, however, reaffirmed its commitment to the 1984 project by including Policy LU-14r in the text of the *General Plan* when it was last updated in 1989. This policy reads as follows:

The “Diverse Agriculture” and “Recreation and Visitor Serving Commercial” designations applied to Graywood Ranch (APNs 51-020-06, 10, 19, 32, and 33 and 51-010-13 and 17) are intended to accommodate an approved development consisting of 18 residential parcels, a 35-room hotel and a winery, each on separate parcels, an agricultural parcel and a residual parcel. It is the intent of the General Plan to:

1. Exempt these parcels from the 10 acre minimum lot size requirement of the “Diverse Agriculture” land use category; and
2. Allow modification of the size and location of these parcels without further amendment of the land use map.

Any proposal to increase the total number of lots or the size of the hotel shall require a general plan map and/or text amendment.

Errors were made in the wording of policy LU-14r which have been addressed by Sonoma County Permit and Resource Management Department (PRMD) staff.⁶ These errors include the determination that the 35 rooms cited in the policy was incorrect and the correct number of hotel rooms was 36, and that a “restaurant” was also part of the 1984 approval.

PRMD staff has made an interpretation that a project consistent with the 1984 approved project implementation of policy LU-14r would include:⁷

- x A 25-acre inn site
- x 20 residential units (18 on new lots, and two existing units on the inn and remnant parcels)⁸
- x A winery on the designated “Winery Parcel” (no dwelling units allowed)

⁶ Letter to Michael Morrison, Common Ground Land Planning Services from Richard C. Rogers, AICP, Planner III, County of Sonoma Permit and Resource Management Department, February 5, 1996.

⁷ *Ibid.*

⁸ The staff report for the 1984 project mentioned two existing residences but did not locate them. Therefore, County staff concluded that the approved project consisted of 18 new and two existing dwelling units. County staff acknowledge the report of a third existing residence but find no mention of it in previous staff reports. County staff states that if three residences exist then the number of new residences allowed would be 17. Letter to Michael Morrison, Common Ground Land Planning Services from Richard C. Rogers, AICP, County of Sonoma Permit and Resource Management Department, February 5, 1996. More recent information, however, indicates a total of four existing residences on the Graywood Ranch, zero on the Sonoma Country Inn portion and four on the Lendal Gray portion.

- x Agricultural use of the “Ag Parcel” (no dwelling units allowed)

ON-SITE LAND USE DESIGNATIONS

The *Sonoma County General Plan* designates portions of the Graywood Ranch as Diverse Agriculture, Resources and Rural Development, and Recreation and Visitor Serving Commercial (see Exhibit 4.0-1)

The *Sonoma County General Plan* includes three agricultural use categories. The land use designation for the majority of the Graywood Ranch is Diverse Agriculture 17 acres density (307.01 acres). The purpose of this agricultural category is to enhance and protect those land areas where soil, climate, and water conditions support farming but where small acreage intensive farming and part time farming activities are predominant. The primary purpose of this category is to protect a full range of agricultural uses and to limit further residential intrusion consistent with the policies of the Agricultural Resources Element. In addition to agricultural production and agricultural services this district permits facilities for the processing of any agricultural product grown or produced primarily on-site or in the local area. This category also permits visitor serving use such as tasting rooms.

Residential densities in this agricultural category range between ten and 60 acres per residential unit. The *General Plan* land use map designates a density of 17 acres per housing unit for this portion of Graywood Ranch. However, *General Plan* policy LU-14r specifically exempts the area designated Diverse Agricultural on the Graywood Ranch from the ten acre minimum lot size requirement.

The northern portion of the Graywood Ranch is designated Resources and Rural Development 100 acre density (164.38 acres). The purpose of this category is to protect lands used for timber, geothermal and mineral resource production and for natural resource conservation. This category allows single family residences at very low density – 20 to 320 acres per unit. The *General Plan* land use map designates a density of 100 acres per housing unit for this portion of Graywood Ranch.

The *General Plan* includes three categories of commercial uses. A small portion of the Graywood Ranch is designated Recreation and Visitor Serving Commercial (5.05 acres). The Recreational and Visitor Serving Commercial use category allows for visitor serving uses such as restaurants, lodging, developed campground, resorts, marinas, golf courses, and similar types of uses. One purpose of this district is to limit this type of development to appropriate sites. Although the primary uses are intended to be outdoor recreation facilities and tourist commercial uses, indoor lodging, restaurants and other uses oriented to the needs of visitors are permitted uses. Lodging facilities, however, may not exceed 50 rooms per site in rural areas not served by public sewer. Structures and parking generally are not expected to cover more than 50 percent of the site or exceed 35 feet in height.

PRMD staff has determined that the area designated Recreation and Visitor Serving Commercial on the *General Plan* land use map for the Graywood Ranch is incorrect.⁹ The *General Plan* land use map designates an area of approximately five acres for Recreation and Visitor Serving Commercial uses. PRMD staff has determined that the 1984 Board of Supervisors approval included a designation of 25 acres for Recreation and Visitor Serving Commercial uses. Therefore, the five acre designation is incorrect and the land use map should properly show a 25 acre designation.

⁹ Letter to Michael Morrison, Common Ground Land Planning Services from Richard C. Rogers, AICP, *op. cit.*

**EXHIBIT 4.0-1
GENERAL PLAN/ZONING/SPECIFIC PLAN DESIGNATIONS**

Parcel	Size	Sonoma County General Plan Designation	Zoning	North Sonoma Valley Specific Plan Land Use Designation
051-020-06	6.68	<i>Land Use:</i> Diverse Agriculture -- 17 acre density <i>Open Space:</i> Community Separator	Diverse Agriculture (DA) B7 Frozen Lot size Scenic Resources (SR)	General Agriculture -- 40 –100 acre density
051-020-010	1.10	<i>Land Use:</i> Diverse Agriculture -- 17 acre density <i>Open Space:</i> Community Separator	Diverse Agriculture (DA) B7 Frozen Lot size Scenic Resources (SR)	Open Land and Residential -- 10-20 acre density
051-020-019	5.05	<i>Land Use:</i> Recreation and Visitor Serving Commercial ¹ <i>Open Space:</i> Community Separator	Recreation & Visitor Serving Commercial ² (K) Scenic Resources (SR)	Open Land and Residential -- 10-20 acre density
051-020-032	7.31	<i>Land Use:</i> Diverse Agriculture -- 17 acre density <i>Open Space:</i> Community Separator	Diverse Agriculture (DA) B7 Frozen Lot size Scenic Resources (SR)	Open Land and Residential -- 10-20 acre density
051-020-043	29.29	<i>Land Use:</i> Diverse Agriculture -- 17 acre density <i>Open Space:</i> Community Separator / Scenic Landscape Unit / Scenic Highway Corridor	Diverse Agriculture (DA) B7 Frozen lot size Scenic Resources (SR)	General Agriculture -- 40-100 acre density

¹ This land use designation is an error, it should be a 25-acre portion of parcel 051-020-045. Letter to Michael Morrison, Common Ground Land Planning Services from Richard C. Rogers, AICP, Planner III, County of Sonoma Permit and Resource Management Department, February 5, 1996, page 2.

² This zoning designation is an error, it should be on a portion of parcel 051-020-045. *Ibid.*

EXHIBIT 4.0-1 (CONTINUED)
GENERAL PLAN / ZONING / SPECIFIC PLAN DESIGNATIONS

Parcel	Size	Sonoma County General Plan Designation	Zoning	North Sonoma Valley Specific Plan Land Use Designation
051-020-045	262.63	<i>Land Use:</i> Diverse Agriculture -- 17 acre density <i>Open Space:</i> Community Separator / Scenic Landscape Unit / Scenic Highway Corridor	Diverse Agriculture (DA) B7 Frozen lot size Scenic Resources (SR)	Open Land and Residential -- 10 –20 acre density General Agriculture 40-100 acre density
051-010-013	40.0	<i>Land Use:</i> Resources and Rural Development -- 100 acre density <i>Open Space:</i> Scenic Landscape Unit	Resources and Rural Development (RRD) 60 acre density ³ Scenic Resources (SR)	Resource Conservation -- 40-100 acre density
051-010-017	124.38	<i>Land Use:</i> Resources and Rural Development -- 100 acre density <i>Open Space:</i> Scenic Landscape Unit	Resources and Rural Development (RRD) 60 acre density. ⁴ Scenic Resources (SR)	Resource Conservation -- 40-100 acre density
	476.44			

Source: Sonoma County Permit and Resource Management

³ This zoning designation is an error, it should be a 100 acre density. *Ibid*, page 4.

⁴ *Ibid*.

In addition to the land use designations, the *General Plan Open Space Element* designates portions of the Graywood Ranch as Community Separator, Scenic Landscape Unit, and Scenic Highway Corridor. All of the Graywood Ranch is designated either as Community Separator or Scenic Landscape Unit. Based on General Plan Figure OS-2 the flatter south area and a portion of the plateau is designated Community Separator while the rest of the plateau and the north area is designated Scenic Landscape Unit.

The Graywood Ranch is at the eastern end of the Northeast Santa Rosa community separator. This 3,500 acre separator extends along State Route 12 near the Oakmont community and follows the ridgeline above Rincon Valley northeast of Calistoga Road. Included in this area are scattered rural residential development and open oak woodlands. According to the *General Plan* urban encroachment in the hillside areas and valley floor would detract from the visual quality.

The *General Plan* discusses landscapes of special importance to Sonoma County (such as vineyards, San Pablo Bay, and the Laguna de Santa Rosa). Other important features include the Mayacamas and Sonoma Mountains which provide scenic backdrops to communities. The *General Plan* states that preservation of these scenic resources is important to the quality of life of County residents and the tourist and agricultural economy. The Sonoma Valley is identified as a major scenic landscape unit. Within the Sonoma Valley are the Sonoma-Napa Mountains which provide a backdrop to the valley and agricultural areas bordering the valley. These areas define the boundaries of the urban and rural communities and are very sensitive because of their small size and the unobstructed view of them from roads and adjoining urban areas.

The *General Plan Open Space Element* Section 2.2 calls for retention of the largely open, scenic character of scenic landscape units, as they provide scenic backdrops to communities and important visual relief from urban densities.

The *General Plan* also acknowledges that many County residents value the variety and beauty of the County's many landscapes as viewed from rural roadways. Motorists can travel from urban centers into orchard and forest covered hills, rolling dairy lands, and scenic valleys planted in vineyards. According to the *General Plan* preserving these landscapes is important to the character of the county. State Route 12 adjacent to the Graywood Ranch is designated a scenic highway corridor.

The *General Plan Open Space Element* does not designate any critical habitat areas or riparian corridors on the Graywood Ranch.

The *General Plan Open Space Element* includes a discussion of open space for outdoor recreation, including parks, equestrian and hiking trails, and bicycle routes. Figure OS-4a is the County's designated plan for trails. The figure shows a proposed trail on, or in the vicinity of the Graywood Ranch, which would link Hood Mountain County Park to Annadel State Park. It is noted that this trail would require a crossing of State Route 12.

In addition, Figure OS-4b shows a bikeway along State Route 12. Adjacent to the Graywood Ranch Figure OS-4b designates a Class II bikeway.¹⁰

¹⁰ There are three types of bikeways, Class I, II, and III. A Class II Bikeway is a bike lane on a right-of-way for the primary use of bicycles. Through travel by autos or pedestrians is not allowed, although vehicle parking is permissible.

The *General Plan Resource Conservation Element* provides for the conservation of natural resources including water, forests, soils, rivers, harbors, fisheries, wildlife, minerals, and other natural resources. Figure RC-2e designates the Graywood Ranch as a part of a major groundwater basin and a portion of the site (the south area and a portion of the plateau) as a groundwater recharge area.

The *General Plan Public Safety Element* is intended to protect the community from unreasonable risks from such conditions as geologic hazards, flood hazards, and wildland fire hazards. Figure PS-1e designates the south area of the Graywood Ranch as having high or moderate potential for liquefaction, the rest of the site as having a high or moderate potential for landslides, and the entire site as having a very high or high potential for large wildland fires.

Sonoma County General Plan Amendment

As discussed in *Chapter 3.0 Description of the Proposed Project*, the *Sonoma Country Inn* project proposes to revise *General Plan* policy LU-14r to read as follows:

The “Diverse Agriculture”, “Resource and Rural Development”, and “Recreation and Visitor Serving Commercial” designations applied to the Graywood Ranch (APN 051-020-006, 010, 019, 032, 043, 045; 051-101-013, 017) are intended to accommodate an approved development consisting of the following:

- x For the easterly 177+/- acres as shown on the approved Development Plan/Tentative Map:
 - à A maximum of 11 residential lots of varying acreage with one primary single family dwelling each.
 - à 50-room inn with restaurant open to the public within approximately 20 +/- acres of K (Recreation and Visitor Serving Commercial) zoning and on its own parcel.
 - à Winery with incidental retail sales, public tasting, and special events on its own parcel.
- x For the westerly 300 +/- acres:
 - à A maximum of six residential lots of varying acreage including three existing dwelling units.

This General Plan policy is intended to supersede that policy of the same number (LU-14r); this new policy wording is intended to acknowledge the project described above and as approved by the Board of Supervisors on _____.

In addition, a technical correction is proposed to increase the area designated Recreation and Visitor Serving Commercial from approximately five acres to 20 acres. With this technical correction the acres of the Graywood Ranch dedicated to each land use designation is shown in Exhibit 4.0-2.

**EXHIBIT 4.0-2
EXISTING AND FUTURE GENERAL PLAN AND ZONING DESIGNATIONS**

General Plan and Zoning Designations	Existing Acres	Future Acres
<i>Land Use:</i> Diverse Agriculture	307.01	292.06
<i>Zoning:</i> Diverse Agriculture	307.01	292.06
<i>Land Use:</i> Recreation and Visitor Service Commercial	5.05	20.00
<i>Zoning:</i> Recreation and Visitor Serving Commercial	5.05	20.00
<i>Land Use:</i> Resources and Rural Development 100 acre density	164.38	164.38
<i>Zoning:</i> Resources and Rural Development 100 acre density	164.38	164.38

Source: Sonoma Country Inn project application and Nichols x Berman

GENERAL PLAN POLICY ANALYSIS

Below is an assessment of the consistency of the *Sonoma Country Inn* project with the relevant policies of the *Sonoma County General Plan*.

Land Use Element

Policy LU-1a – This policy states in part that the following plans shall be repealed, but development guidelines contained therein shall be reviewed and updated and considered for adoption as “local area development guidelines”, provided that they are consistent with the general plan. Until such a time as these guidelines are adopted, any policies contained in these plans shall continue to apply provided they are consistent with the general plan.

Included in the list of plans cited in this policy is the *North Sonoma Valley Plan*.

Analysis – The proposed project’s consistency with the relevant portions of the *North Sonoma Valley Specific Plan* is provided in section 4.2 below.

Goal LU-5 -- Identify important open space areas between the county's cities and communities. Maintain them in a largely open or natural character with low intensities of development.

Analysis -- The *General Plan* designates the entire *Sonoma Country Inn* project site as either Community Separator or Scenic Landscape Unit. Previously, the Board of Supervisors approved development on this site as a part of the Graywood Ranch project. Although the *Sonoma Country Inn* project represents a slight increase in intensity on the site (a 50-room inn versus a 36-room inn) basically the site would retain its largely open character with implementation of the proposed project.

Goal LU-8 -- Protect lands currently in agricultural production and lands with soils and other characteristics which make them potentially suitable for agricultural use. Retain large parcel sizes and avoid incompatible non-agricultural uses.

Analysis -- There is no agricultural production currently on any portion of the project site. As discussed in *Section 5.1 Land Use* the area most suitable for agricultural use on the project site is the

valley floor containing Class II and III soils. The majority of this area would be used for wastewater disposal for either the winery or the inn/spa/restaurant. Although not specifically discussed in the applicant's project description it is possible that the south area could be used simultaneously for waste disposal purposes and agricultural production to take advantage of the agricultural capability of these soils. However, as further discussed in *Section 5.1 Land Use* the feasibility of agriculture on this portion of the site is uncertain. Impact 5.1-4 discusses compatibility with adjacent agricultural uses and recommends mitigation measures to reduce impacts to a less-than-significant level.

Objective LU-8.2 -- Retain large parcels in agricultural production areas and avoid new parcels less than 20 acres in the "Land Intensive Agriculture" category.

Analysis -- There is no agricultural production currently on any portion of the project site. No portion of the project site has a Land Intensive Agriculture *General Plan* designation.

Objective LU-8.3 -- Agricultural lands not currently used for farming but which have soils or other characteristics which make them suitable for farming shall not be developed in a way that would preclude future agricultural use.

Analysis -- As discussed in *Section 5.1 Land Use* the area most suitable for agricultural use on the project site is the valley floor containing Class II and III soils. The majority of this area would be used for wastewater disposal for either the winery or the inn/spa/restaurant. Although not specifically discussed in the applicant's project description it is possible that the south area could be used simultaneously for waste disposal purposes and agricultural production to take advantage of the agricultural capability of these soils. However, as further discussed in *Section 5.1 Land Use* the feasibility of agriculture on this portion of the site is uncertain.

Objective LU-8.4 -- Discourage uses in agricultural areas that are not compatible with long term agricultural production.

Analysis -- Impact 5.1-4 discusses compatibility with adjacent agricultural uses and recommends measures to reduce impacts to a less-than-significant level. However, it is not clear at this point in project development if agriculture could be established on the project site without significant conflicts with the residential and commercial uses proposed on the site.

Policy LU-8d -- Deny general plan amendments which convert lands outside of designated urban service areas with Class I, II, or III soils (USDA) to an urban or rural residential, commercial, industrial, or public/quasi public category unless all of the following criteria are met:

1. The use is not in an agricultural production area and will not adversely affect agricultural operations.
2. The supply of vacant potential land for the requested use is insufficient to meet projected demand.
3. No areas with other soil classes are available for non-resource uses in the planning area.
4. An overriding public benefit will result from the proposed use.

Analysis -- The *Sonoma Country Inn* project does not propose a General Plan amendment that would convert lands to an urban or rural residential, commercial, industrial, or public/quasi public category. The project would result in a change in land use designation from Diverse Agriculture to Recreation

and Visitor Service Commercial for approximately 15 acres but this is to correct a previous mapping error.

Policy LU-14r -- The "Diverse Agriculture" and "Recreation and Visitor Serving Commercial" designations applied to Graywood Ranch (APNs 51-020-06, 10, 19, 32 and 33 and 51-010-13 and 17) are intended to accommodate an approved development consisting of 18 residential parcels, a [36] room hotel and a winery, each on separate parcels, an agricultural parcel and a residual parcel. It is the intent of the general plan to:

1. exempt these parcels from the 10 acre minimum lot size requirement of the "Diverse Agriculture" land use category; and
2. allow modification of the size and location of these parcels without further amendment of the land use map.

Any proposal to increase the total number of lots or the size of the hotel shall require a general plan map and/or text amendment.

Analysis -- The project proposes a General Plan amendment to revise the text of LU-14r to increase the number of hotel rooms to 50, include a restaurant open to the public, and reduce the number of residential lots to 17 to make it consistent with the proposed project. With approval of the General Plan amendment the proposed project would be consistent with policy LU-14r.

Open Space Element

Objective OS-1.2 -- Retain a rural character and promote low intensities of development in community separators. Avoid their annexation or inclusion in spheres of influence for sewer and water service providers.

Analysis -- The project does not propose annexation or inclusion in spheres of influence for sewer and water service. The project does, however, propose an increase in intensity in use over what was previously proposed. Although much of the development would be shielded from view by users on SR 12, portions would be visible and would result in a reduction of the rural scenic character of the site.

Objective OS-1.3 -- Provide opportunities for consideration of additional development in community separators in exchange for permanent open space preservation and other overriding public benefits.

Analysis -- The project does propose four vegetation preserves on the project site. The preserves would be established through CC&Rs. However, other areas of the site are not proposed for permanent open space preservation through dedication or the use of conservation easements.

Objective OS-1.4 -- Preserve existing specimen trees and tree stands within community separator areas.

Analysis -- The proposed project would result in significant tree loss, including removal of a significant number of trees to accommodate roadways and buildings. Some tree and groundcover removal would improve the health of the forest and would reduce threat of destructive wildfire, but anticipated loss of an estimated 3,000 trees and intensity of development would reduce value of forest and woodland habitat. Mitigation measures in **Section 5.6 Biological Resources** would result in additional controls on tree removal, careful siting of roads and structures, enhancement and

replacement plantings, permanent protection and management of remaining woodlands would reduce anticipated impacts on tree resources.

Policy OS-1a -- Avoid amendments to increase residential density in community separators, since these densities were established based upon the policies set forth in other elements of this plan as well as the open space, separation and visual considerations identified in this section. The integrity of community separators cannot be maintained at densities in excess of one unit per ten acres. However, under no circumstances shall this policy be used to justify an increase in density from that designated on the land use map.

Analysis -- PRMD staff has made an interpretation that consistent with the 1984 approved project 20 residential units (combination of new and existing units) would be permitted on the entire Graywood Ranch.¹¹ A total of seven units (three new and four existing) are proposed for the Graywood Subdivision leaving 11 residential units for the *Sonoma Country Inn* site. The *Sonoma Country Inn* project does not propose to increase the number of residential units.

Policy OS-1b -- Avoid commercial or industrial uses in community separators other than those which are permitted by the agricultural or resource land use categories, except as may be authorized by policy OS-1c below. Consider amendments for outdoor recreational or other uses with a low intensity of structures only in those community separators along the Highway 101 Corridor.

Analysis -- This policy applies to the lower portion of the project site which is designated a community separator. Compared to the 1984 project (and the project described in *General Plan* policy LU-14r) the project could be viewed as an intensification of commercial uses due to the increase in the number, size and location of rooms in the inn (36 to 50), the restaurant and spa open to the public, and the special events at the winery. Although the inn, spa, and restaurant uses would not be permitted by the agricultural or resource land use categories, they (the inn/spa/restaurant) would be permitted on lands designated RVSC. The number of special events would be permitted by the Diverse Agriculture designation with the issuance of a use permit.

Policy OS-1c -- Notwithstanding policies OS-1a, OS-1b, LU-5c, the policies of the Agricultural Resources and Public Facilities Elements, and the densities set forth on the land use map, the Board of Supervisors may, through a development agreement or other appropriate mechanism, allow additional or varied development within community separators on a case by case basis if, at a minimum, the following criteria are met:

1. Permanent open space preservation is provided through open space grants to the County and/or third party land trust.
2. Development is clustered, concentrated or located to maintain the visual quality of the separator.
3. In addition to providing permanent open space preservation, the development includes other public benefits which equal or outweigh the impacts of placing such development within the separator.
4. The development is accompanied by a visual analysis which demonstrates that the development either is not detrimental to or, in fact, enhances the visual quality of the separator as a whole.

¹¹ Letter to Michael Morrison, Common Ground Land Planning Services from Richard C. Rogers, AICP, *op. cit.*

5. Adequate additional public services and infrastructure are available to serve the development.
6. The development is compatible with surrounding properties, especially those used for agricultural pursuits.
7. Where open space grants are offered by way of easement as opposed to fee title, the development proposal includes a landscaping and maintenance plan which retains or enhances the visual integrity of the permanent open space.

In addition to the mandatory criteria set forth above, special consideration will be given to projects which incorporate one or more of the following:

1. Aggregation of parcels within the separator to achieve a project design which enhances the separator as a whole.
2. Creative developer/city/county financing mechanisms to maintain and preserve open space or parkland which may be dedicated in fee as part of the proposed development.
3. Project design features which provide for pedestrian or bicycle links between the communities on either side of the separator and to any parkland which may be dedicated in fee as part of the proposed development.

Nothing set forth in this policy shall require the Board of Supervisors to allow this additional development in community separators. Development, if any, proposed pursuant to this policy may be allowed after public hearing if the Board, in its sole discretion, determines that the proposed development is desirable for the community as a whole and is otherwise consistent with the General Plan and the criteria set forth above.

Analysis The project applicant does not propose to use OS-1c.

Policy OS-1e -- Require that new structures meet the following criteria:

1. They are sited below exposed ridgelines.
2. They use natural landforms and existing vegetation to screen them from view from public roads. On exposed sites, screening with native, fire retardant plants may be required.
3. Cuts and fills are discouraged and where practical, driveways are screened from public view.
4. Utilities are undergrounded where economically practical.

Exempt agricultural accessory structures from this policy if their use does not require a use permit in the zoning ordinance. If compliance with these standards would make a parcel unbuildable, site structures where minimum visual impacts would result.

Analysis -- As shown in the photosimulations in *Section 5.8 Visual and Aesthetic Quality* no part of the development is seen at or above the ridgeline. Although the proposed project would result in significant tree loss, including removal of a significant number of trees to accommodate roadways, buildings, and for fire protection, the project does use the existing vegetation to generally screen most of the proposed buildings from public view. However, as discussed in Impact 5.8-3, from State Route 12 (west of Adobe Canyon Road) portions of the proposed project would be highly visible due to the

visual contrast of the form and color of the buildings with the immediately surrounding land forms and vegetation. Grading would be required to develop on-site roads, parking lots, building pads for the inn/spa/restaurant, the winery, plus the 11 residential buildings. As shown in the photosimulations, no ground-level features such as roads, driveways, or parking areas are seen. Finally, the applicant proposes to underground both electric utility and telephone lines on-site.

Policy OS-1f -- Use the following standards in addition to those of Policy OS-1e for subdivisions in community separators:

1. Establish building envelopes for structures. Consider use of height limitations if necessary to further mitigate visual impacts.
2. Use clustering to reduce visual impact where consistent with the land use element.
3. Locate building sites and roadways to preserve significant existing tree stands and significant oak trees.
4. To the extent allowed by law, require dedication of a permanent scenic or agricultural easement at the time of subdivision.

Analysis -- The Development Plan establishes building locations for the single family residences. Limitations on building heights have not been established, however, based on the photosimulations in **Section 5.8 Visual and Aesthetic Quality** building height limitations on the single family residences may not be necessary.¹² The project does not propose to cluster the single-family homes; however, due to the screening provided by the existing vegetation clustering to reduce visual impacts may not be necessary. The project would result in significant tree loss, including removal of a significant number of trees to accommodate roadways and buildings. Mitigation measures regarding controls on tree removal, careful siting of roads and structures, enhancement and replacement plantings, permanent protection and management of the remaining woodlands would serve to reduce anticipated impacts on tree resources. The project does propose the establishment of four vegetation preserves on-site. However, other areas of the site are not proposed for permanent open space preservation through dedication or the use of conservation easements.

Goal OS-2 -- Retain the largely open, scenic character of important scenic landscape units.

Analysis -- A portion of the plateau and the north area is designated a Scenic Landscape Unit. Although *General Plan* policy LU-14r would permit development in this area, development of the proposed project would result in the construction of additional buildings, thus reducing the largely open scenic character of the area.

Objective OS-2.1 -- Retain a rural, scenic character in scenic landscape units with very low intensities of development. Avoid their inclusion within spheres of influence for public service providers.

Analysis -- Although *General Plan* policy LU-14r would permit development in this area, development of the proposed project would result in the construction of additional buildings, thus reducing the rural scenic character of the area.

¹² The maximum residential building height in the Diverse Agriculture Zoning District is 35 feet.

Objective OS-2.2 -- Provide opportunities for consideration of additional development in scenic landscape units in exchange for permanent open space preservation.

Analysis -- The project does propose four vegetation preserves on the project site. The preserves would be established through CC&Rs. At least one of the preserves (the Sonoma Ceanothus Preserve) is located in the scenic landscape unit. The intent of the preserves is that they result in permanent open space preservation on the site.

Policy OS-2a -- Avoid amendments to increase residential density in scenic landscape units in excess of one unit per ten acres. The land use plan may designate a lower density or larger minimum lot size.

Analysis -- The project does not propose a General Plan amendment to increase the number of residential units permitted on the site.

Policy OS-2b -- Avoid commercial or industrial uses in scenic landscape units other than those which are permitted by the agricultural or resource land use categories.

Analysis -- Compared to the 1984 project (and the project described in *General Plan* policy LU-14r) the project could be viewed as an intensification of commercial uses due to the increase in the number, size and location of rooms in the inn (36 to 50), the restaurant and spa open to the public, and the special events at the winery. Although the inn, spa, and restaurant uses would not be permitted by the agricultural or resource land use categories, they (the inn/spa/restaurant) would be permitted on lands designated RVSC. The special events would be permitted by the Diverse Agriculture designation with the issuance of a use permit.

Policy OS-2c -- Notwithstanding policies OS-2a and Lu-8a and the densities set forth on the land use map, the Board of Supervisors may, through a development agreement or other appropriate mechanism, allow additional residential development within scenic landscape units on a case by case basis, if, at a minimum, the following criteria are met:

1. Permanent open space preservation is provided through open space grants to the County and/or third party land trust.
2. Development is clustered, concentrated or located to maintain the visual quality of the separator.
3. In addition to providing permanent open space preservation, the development includes other public benefits which equal or outweigh the impacts of placing such development within the scenic landscape unit.
4. The development is accompanied by a visual analysis which demonstrates that the development either is not detrimental to or, in fact, enhances the visual quality of the area.
5. Adequate additional public services and infrastructure are available to serve the development.
6. The development is compatible with surrounding properties, especially those used for agricultural pursuits.
7. The development does not require urban level services.
8. To the extent possible, the development is consistent with the policies set forth in the Agricultural Resources Element.

In addition to the mandatory criteria set forth above, special consideration will be given to projects which incorporate one or more of the following:

1. Aggregation of parcels within the separator to achieve a project design which visually enhances the area.
2. Creative developer/city/county financing mechanisms to maintain and preserve open space or parkland which may be dedicated in fee as part of the proposed development.
3. Project design features which provide for pedestrian or bicycle links between the communities on either side of the separator and to any parkland which may be dedicated in fee as part of the proposed development.

Nothing set forth in this policy shall require the Board of Supervisors to allow this additional development in scenic landscape units. Development, if any, proposed pursuant to this policy may be allowed after public hearing if the Board, in its sole discretion, determines that the proposed development is desirable for the community as a whole and is otherwise consistent with the General Plan and the criteria set forth above.

Analysis The applicant does not propose to use OS-2c.

Policy OS-2e -- Require that new structures meet the following criteria:

1. They are sited below exposed ridgelines.
2. They use natural landforms and existing vegetation to screen them from view from public roads. On exposed sites, screening with native, fire retardant plants may be required.
3. Cuts and fills are discouraged and where practical, driveways are screened from public view.
4. Utilities are undergrounded where economically practical.

Exempt agricultural accessory structures from this policy if their use does not require a use permit in the zoning ordinance. If compliance with these standards would make a parcel unbuildable, site structures where minimum visual impacts would result.

Analysis -- As shown in the photosimulations in *Section 5.8 Visual and Aesthetic Quality* no part of the development is seen at or above the ridgeline. Although the proposed project would result in significant tree loss, including removal of a significant number of trees to accommodate roadways, buildings, and for fire protection, the project does use the existing vegetation to generally screen most of the proposed buildings from public view. However, as discussed in Impact 5.8-3, from State Route 12 (west of Adobe Canyon Road) portions of the proposed project would be highly visible due to the visual contrast of the form and color of the buildings with the immediately surrounding land forms and vegetation. Grading would be required to develop on-site roads, parking lots, building pads for the inn/spa/restaurant, the winery, plus the 11 residential buildings. As shown in the photosimulations, no ground-level features such as roads, driveways, or parking areas are seen. Finally, the applicant proposes to underground both electric utility and telephone lines on-site.

Policy OS-2f -- Use the following standards in addition to those of Policy OS-2e for subdivisions in scenic landscape units:

1. Establish building envelopes for structures. Consider use of height limitations if necessary to further mitigate visual impacts.
2. Use clustering to reduce visual impact where consistent with the land use element.
3. Locate building sites and roadways to preserve significant existing tree stands and significant oak trees.

Analysis -- The Development Plan establishes building locations for the single family residences. Limitations on building heights have not been established, however, based on the photosimulations in **Section 5.8 Visual and Aesthetic Quality** building height limitations beyond the 35 foot zoning district limitation, on the single family residences may not be necessary. The project does not propose to cluster the single-family homes; however, due to the screening provided by the existing vegetation clustering to reduce visual impacts may not be necessary. The project would result in significant tree loss, including removal of a significant number of trees to accommodate roadways and buildings. Mitigation measures regarding controls on tree removal, careful siting of roads and structures, enhancement and replacement plantings, and permanent protection and management of the remaining woodlands would serve to reduce anticipated impacts on tree resources.

Policy OS-2g -- Identify critical scenic areas within designated scenic landscape units. To the extent allowed by law, consider requiring dedication of a permanent scenic or agricultural easement at the time of subdivision for properties within these critical scenic areas.

Analysis -- No “critical scenic areas” have been identified within the designated scenic landscape unit on the project site.

Policy OS-2i -- For development on parcels located both within scenic landscape units and adjacent to scenic corridors, apply the more restrictive siting and setback policies to preserve visual quality.

Analysis -- The more restrictive siting and setback policies of the scenic landscape units and scenic corridors have been applied in the EIR analysis.

Policy OS-7d -- The trails on Figure OS-4a on page 187 make up the County’s designated plan for trails. Trail locations are approximate and are described below. Roadways may be used where access cannot be obtained through private property.

Hood Mountain – Annadel Trail – The proposed trail links Hood Mountain County Park to Annadel State Park, however a crossing at Highway 12 will be necessary to obtain.

Analysis -- The project includes an offer of a public trail easement, dedicated to Sonoma County, from the winery parking lot to Hood Mountain County Park, with public parking located in the winery parking lot. The lack of a connection to State Route 12 potentially conflicts with this policy. County staff has requested that the trail design begin at the southeast corner of the project site at State Route 12, extend across the frontage, and continue north parallel to the access road.¹³ County staff anticipates that pedestrians or other users of the trail would stay on the north side of the highway and

¹³ Memorandum to Paula Stamp, PRMD from Steve Ehret, Park Planner II, Regional Parks, July 29, 2002.

follow State Route 12 to a signalized crossing when leaving the site.¹⁴ However, as noted in *Section 5.2 Traffic and Circulation*, the nearest signalized intersection is at State Route 12/Pythian Road approximately 0.75 mile west of the project site.

The EIR traffic engineer considers provision of a public trail connection that would lead hikers, bicyclists, and equestrians to a mid-road crossing of a state highway to raise significant safety concerns.

Policy OS-7f -- Consider requiring a dedication in fee or by easement for trails as a condition of approval of subdivisions. There must be a need identified on Figures OS-4a or Os-4b on pages 187 and 189 and the project must either block an existing access or result in the need for additional recreational opportunities. Locate and fence trails to minimize impacts on agricultural uses.

Analysis -- See analysis of policy OS-7d above.

Agricultural Resources Element

Objective AR-3.2 -- Maintain, in those agricultural land use categories where small parcels may be permitted, the largest land area for agricultural use. Limit the number of clustered lots in any one area to avoid the potential conflicts associated with residential intrusion.

Analysis -- There is no agricultural production currently on any portion of the project site. As discussed in *Section 5.1 Land Use* the area most suitable for agricultural use on the project site is the valley floor containing Class II and III soils. The majority of this area would be used for wastewater disposal for either the winery or the inn/spa/restaurant. Although not specifically discussed in the applicant's project description it is possible that the south area could be used simultaneously for waste disposal purposes and agricultural production to take advantage of the agricultural capability of these soils. Impact 5.1-4 discusses compatibility with adjacent agricultural uses and recommends mitigation measures to reduce impacts to a less-than-significant level.

Policy AR-3e -- Where clustered subdivision is permitted, to the extent allowed by law, place an agricultural easement in perpetuity on the residual farming parcel(s) at the time that the subdivision occurs. The easement shall be conveyed to the County or other appropriate non-profit organizations.

Analysis -- The project does not propose the clustering of the residential units, therefore an agricultural easement would not be required under this policy.

Policy AR-4c -- Protect agricultural operations by establishing a buffer between the agricultural land use and the residential use at the urban fringe adjacent to an agricultural land use category. Buffers shall generally be defined as a physical separation of 100 to 200 feet and/or may be a topographic feature, a substantial tree stand, watercourse or similar feature. In some circumstances a landscaped berm may provide the buffer. The buffer shall occur on the parcel for which a permit is sought and shall favor protection of the maximum amount of farmable land.

Analysis -- Impact 5.1-4 discusses compatibility with adjacent agricultural uses and recommends mitigation measures to reduce impacts to a less-than-significant level. Mitigation includes the

¹⁴ Nichols Berman conversation with Paula Stamp, PRMD, July 2002.

establishment of a 100-foot agricultural setback on the east side of Parcel B (the inn parcel) and the south side of residential lot 8.

Policy AR-5e -- Local concentrations of any commercial or industrial uses, even if related to surrounding agricultural activities, are detrimental to the primary use of the land for the production of food, fiber and plant materials and shall be avoided.

Analysis -- The 1984 project (and the project described in *General Plan* policy LU-14r) included a 36 room inn and a restaurant for guests only. The *Sonoma Country Inn* project proposes a 50 room inn (an increase of 14 rooms), a restaurant open to the public by reservation, and other activities (spa, special events, etc) not envisioned by the 1984 project. The project would result in a concentration of commercial uses on the project site beyond what is envisioned by *General Plan* policy LU-14r.

Policy AR-5f -- Permit storage facilities for agricultural products either grown or processed on the site. Size the facilities according to the processing operation.

Analysis -- Although not stated in the applicant's project description it is assumed that some storage for the winery would occur on-site and that the facilities would be sized according to the size of the winery.

Goal AR-6 -- Allow new visitor serving uses and facilities in some agricultural areas but limit them in scale and location. These uses must be beneficial to the agricultural industry and farm operators and compatible with long-term agricultural use of the land.

Analysis -- The winery, along with the proposed retail sales, tasting room, and special events are considered to be compatible with long-term agricultural use of the site.

Objective AR-6.1 -- Give the highest priority in all agricultural land use categories to agricultural production activities. Any visitor serving facilities shall promote agriculture and be secondary and incidental to the area's agricultural production.

Analysis -- The project proposes a winery with an annual production capacity of 10,000 cases. Although no vineyards are proposed for the project site, the winery would require the importation of grapes, an agricultural product that is grown in Sonoma County.

Objective AR-6.2 -- Permit tasting rooms and stands for the sale and promotion of products grown or processed in the County in all agricultural land use categories if they support and do not adversely affect the agricultural production activities of the area. Bed and breakfast inns of five or fewer rooms and campgrounds of up to 30 sites are permissible only in the "Land Extensive Agriculture" and "Diverse Agriculture" categories if they do not adversely affect the agricultural production activities of the area.

Analysis -- The winery is proposed to be open to the public, with a tasting room, wine retail sales, and a separate "country store" selling Sonoma County produce, food, and assorted gift items. Such uses would appear to promote products grown or processed in Sonoma County.

Policy AR- 6a -- Limit visitor serving uses in agricultural categories to those which promote agricultural production in the county, specifically to tasting rooms and stands for the sales and promotion of products grown or processed in the county. Limit recreational uses to the "Land Extensive Agriculture" and "Diverse Agriculture" categories, specifically to bed and breakfast inns of five or fewer rooms and campgrounds of 30 or fewer sites.

Analysis -- The project proposes development of a winery, with a tasting room, wine retail sales, an event area and a “country store” selling Sonoma County produce, food, and associated gift items. The project proposes 30 special events per year. Special events in association with wineries, as proposed by the *Sonoma Country Inn* project have been allowed by the County in agricultural land use categories and recognized by the County as one way to market local agricultural products.

Policy AR-6b -- Notwithstanding policy AR-6a, recognize existing restaurants or lodging facilities and those which were approved during adoption of this plan, but limit their expansion or intensification.

Analysis -- The 1984 project (and the project described in *General Plan* policy LU-14r) included a 36 room inn and a restaurant for guests only. The *Sonoma Country Inn* project proposes a 50 room inn (an increase of 14 rooms), a restaurant open to the public by reservation, and other activities (spa, events, etc) not envisioned by the 1984 project or policy LU-14r. The proposed project appears to be an intensification of use from the 1984 project and LU-14r.

Policy AR-6d -- Follow these guidelines for approval of visitor serving uses in agricultural areas, such as wine or cheese tasting:

1. The use promotes and markets only agricultural products grown or processed in Sonoma County.
2. The use is compatible with existing agricultural production activities in the area.
3. The use will not require the extension of sewer and water

Analysis -- The *Sonoma Country Inn* project includes a winery with an annual production capacity of 10,000 cases. As called for in this policy, the winery would promote and market agricultural products grown or processed in Sonoma County, and would not require extension of urban sewer and water facilities.

Policy AR-6g -- Concentrations of visitor serving uses in a local area, even if related to surrounding agricultural activities, are detrimental to the primary use of the land for the production of food, fiber, and plant materials and may constitute grounds for denial for such uses.

Analysis -- There currently is a concentration of visitor serving uses in this segment of State Route 12. Existing visitor serving uses in the area include the Chateau St. Jean, Landmark, St. Francis, Ledson, Blackstone, Kenwood, and Kunde wineries. In addition the Mobius Painter Winery is approved and currently under construction. The 1984 project (and the project described in *General Plan* policy LU-14r) included a 36 room inn and a restaurant for guests only. The *Sonoma Country Inn* project proposes a 50 room inn (an increase of 14 rooms), a restaurant open to the public by reservation, and other activities (spa, special events, etc) not envisioned by the 1984 project. The project would result in a concentration of commercial uses on the project site beyond what is envisioned by *General Plan* policy LU-14r.

Resource Conservation Element

Policy RC-2b -- Include erosion control measures for any discretionary project involving construction or grading near waterways or on lands with slopes over 10 percent.

Analysis -- *Section 5.3 Hydrology and Water Quality* discusses erosion and sedimentation impacts and recommends mitigation measures to reduce impacts to a less-than-significant level.

Policy RC-2d -- Require a soil conservation program to reduce soil erosion impacts for discretionary projects which could increase waterway or hillside erosion. Design improvements such as roads and driveways to retain natural vegetation and topography to the extent feasible.

Analysis -- *Section 5.3 Hydrology and Water Quality* discusses erosion and sedimentation impacts and recommends mitigation measures to reduce impacts to a less-than-significant level.

Policy RC-2e -- Retain natural vegetation and topography to the extent economically feasible for any discretionary project improvements near waterways or in areas with a high risk of erosion as noted in the Soil Survey of Sonoma.

Analysis -- The proposed project would have significant impacts on vegetation, and potential erosion and sedimentation could have significant impacts on sensitive wetlands and the population of narrow-anthered California brodiaea on the site. Mitigation measures recommended in this EIR would mitigate anticipated impacts on sensitive resources.

Policy RC-2g -- Continue to enforce the Uniform Building Code to reduce erosion and slope instability problems.

Analysis -- Impact 5.7-7 discusses the potential slope failure from a possible landslide on the site. Mitigation measures recommended in this EIR would reduce this impact to a less-than-significant level.

Objective RC-3.1 -- Preserve watersheds and groundwater recharge areas by avoiding the placement of potential pollution sources in areas with high percolation rates.

Analysis -- The proposed project does not place potential pollution sources in areas of high percolation rate.

Objective RC-3.2 -- Provide development standards in recharge areas to maintain groundwater supplies.

Analysis -- The proposed project would have a less-than-significant impact on groundwater recharge, no additional development standards would be required.

Objective RC-3.3 -- Preserve and enhance the quality of surface and groundwater resources

Analysis -- The proposed project would have a less-than-significant impact on groundwater. Impact 5.3-2 discusses water quality impacts from project-related runoff pollutants. Mitigation measures recommended in this EIR would mitigate anticipated water quality impacts.

Objective RC-3.4 -- Insure that land uses in rural areas be consistent with the availability of groundwater resources.

Analysis -- As discussed in Impact 5.5.1 the Resort Well and Winery Well would be suitable to supply an adequate quantity and quality of water for the proposed project.

Policy RC-3a -- Grading, filling and construction should not substantially reduce or divert any stream flow that would affect groundwater recharge.

Analysis – The proposed project would not substantially reduce or divert any stream flow that would affect groundwater recharge.

Policy RC-3b -- Require groundwater monitoring programs for all large scale commercial and industrial uses using wells.

Analysis – Based on the water supply studies prepared for the project and the analyses completed for this EIR additional groundwater monitoring programs would not be necessary.

Policy RC-3d -- Continue to encourage the construction of wastewater disposal systems designed to reclaim and reuse treated wastewater on agricultural crops, and for other irrigation and wildlife enhancement projects.

Analysis –The project proposes to use graywater, after proper treatment, from the inn laundry and spa facility to irrigate project landscaping and/or develop a surface water feature to be located near the inn.

Policy RC-3e -- Encourage wastewater disposal methods which minimize reliance on discharges into natural waterways. If discharge is proposed, review and comment on projects and environmental documents and request that projects maximize reclamation, conservation and reuse programs to minimize discharges and protect water quality and aquifer recharge areas.

Analysis – Project does not propose to discharge wastewater into natural waterways.

Policy RC-3f -- The Environmental Health Department shall review all subdivisions using septic systems so that leachants do not contaminate groundwater recharge areas. Consider on-site wastewater management districts in important recharge areas.

Analysis – The proposed Development Plan and tentative map will be subject to review and approval by the Sonoma County PRMD Well and Septic Section.

Goal RC-5 -- Promote and maintain the County’s diverse plant and animal communities and protect biotic resources from development activities.

Analysis – The proposed project would have significant impacts on vegetation and wildlife resources. Mitigation measures recommended in **Section 5.6 Biological Resources** would mitigate anticipated impacts on sensitive resources.

Objective RC-5.1 -- Identify and encourage protection of areas with important wildlife habitats and woodland resources.

Analysis – The proposed project would have significant impacts on woodlands and wildlife habitat. Mitigation measures recommended in **Section 5.6 Biological Resources** would serve to mitigate anticipated impacts on sensitive resources.

Objective RC-5.2 -- Encourage the use of native plants in landscaping to reduce the risk of introducing exotic plant species into wildlife areas.

Analysis – The Vegetation Management Plan proposed by the applicant does call for control of invasive exotics. The applicant’s *Conceptual Plant Lists* includes the use of native species. Mitigation measures recommended in **Section 5.6 Biological Resources** include an emphasis on use of native species in landscaping.

Objective RC-5.4 -- Identify important valley oak habitat areas and protect and enhance valley oaks and valley oak woodlands in these areas.

Analysis -- Proposed project includes establishment of preserves to protect the stands of valley oak, and additional mitigation measures recommended in this EIR would protect other valley oaks associated with the riparian corridor along Graywood Creek.

Objective RC-5b -- On discretionary projects, use native or compatible non-native species to the extent possible for landscaping. Discourage use of exotics, such as pampas grass and scotch broom.

Analysis -- Provisions in the proposed Vegetation Management Plan call for control of invasive exotics, and mitigation recommended in this EIR includes an emphasis on use of native species in landscaping.

Policy RC-5c -- Make the preservation of significant native oaks and other native trees a primary consideration in the review of development projects.

Analysis -- The project would result in significant tree loss, including removal of a significant number of trees to accommodate roadways and buildings. Mitigation measures in **Section 5.6 Biological Resources** would result in additional controls on tree removal, careful siting of roads and structures, enhancement and replacement plantings, permanent protection and management of remaining woodlands would reduce anticipated impacts on tree resources.

Goal RC-6 -- Identify and protect rare and endangered species and their environment.

Analysis -- Measures proposed as part of the project to protect identified special-status species would be inadequate. Mitigation measures required in **Section 5.6 Biological Resources** and further review by trustee agencies would provide for adequate protection of special-status species.

Objective RC-6.1 -- Identify the locations of rare and endangered plants and animals.

Analysis -- Detailed surveys conducted during this environmental review provide for adequate identification of special-status species on the site.

Objective RC-6.2 -- Require that any development on lands containing rare and endangered species be done in a manner which protects the resource or mitigates adverse impacts.

Analysis -- The project would result in direct and indirect impacts on the populations of narrow-anthered California brodiaea and Sonoma ceanothus, which would conflict with the intent of this objective. Mitigation measures in **Section 5.6 Biological Resources** and further review by trustee agencies would provide for adequate protection of special-status species.

Policy RC-6b -- Protection for rare and endangered species, wetlands, and other biotic resources not indicated on Figure OS-3 on page 183 shall be accomplished through compliance with applicable state and federal law.

Analysis -- The project would result in direct and indirect impacts on the seasonal wetlands, ephemeral drainages, Graywood Creek channel, and populations of narrow-anthered California brodiaea and Sonoma ceanothus, which would conflict with the intent of this policy. Mitigation measures required in **Section 5.6 Biological Resources** and further review and permit approval by trustee agencies would provide for protection of sensitive resources.

Policy RC-8c -- Design public and private projects to minimize damage to the stream environment and to maintain instream flows.

Analysis -- The project would not adversely affect flows in Sonoma Creek or other drainages on-site.

Public Safety Element

Goal PS-1 -- Prevent unnecessary exposure of people and property to risks of damage or injury from earthquakes, landslides and other geologic hazards.

Analysis -- Potential risks due to geologic hazards are described in *Section 5.7 Geology/Soils*. Mitigation measures 5.7-2 through 5.7-7 would reduce these impacts to a less-than-significant level.

Objective PS-1.2 -- Regulate new development to reduce the risks of damage and injury from known geologic hazards to acceptable levels.

Analysis -- Potential risks due to geologic hazards are described in *Section 5.7 Geology/Soils*. Mitigation measures 5.7-2 through 5.7-7 would reduce these impacts to a less-than-significant level.

Policy PS-1f -- Require review of geologic reports prior to decisions on any project which would subject property or persons to significant risks from the geologic hazards shown on Figures PS-1a through PS-1i and related file maps and source documents. Geologic reports shall describe the hazards and include mitigation measures to reduce risks to acceptable levels. Where appropriate, require an engineer's or geologist's certification that risks have been mitigated to an acceptable level and, if indicated, obtain indemnification or insurance from the engineer, geologist, or developer to minimize County exposure to liability.

Analysis -- Potential risks due to geologic hazards are described in *Section 5.7 Geology/Soils*. Mitigation measures 5.7-2 through 5.7-7 would reduce these impacts to a less-than-significant level.

Goal PS-3.1 -- Prevent unnecessary exposure of people and property to risks of damage or injury from wildland and structural fires.

Analysis -- Measures to reduce hazards associated with wildfires on the site have been incorporated into the project as part of consultation with County Department of Emergency Services.

Policy PS-3b -- Consider the severity of natural fire hazards, potential damage from wildland and structural fires, adequacy of fire protection and mitigation measures consistent with this element in the review of projects.

Analysis -- Provisions for reduction in fuel loads, clearance around structures, and canopy separation would address requirements of County Department of Emergency Services. These requirements should be balanced with the need to protect and maintain the biological value of the forest and woodland habitat on the site.

Goal PS-4 -- Prevent unnecessary exposure of people and property to risks of damage or injury from hazardous materials.

Analysis -- According to the Initial Study prepared for this project, hazardous materials would not be produced or generated by the project. Nevertheless, the inn/spa/restaurant and winery would all occasionally transport and use hazardous materials (i.e. oils, fuels, lubricants, cleaning fluids, etc.) associated with building maintenance, landscape maintenance, winery operations, spa, and pool

maintenance. The project would be required to comply with hazardous waste laws and AB2185 if hazardous waste is generated or stored on-site, to avoid creating a hazard to the public or the environment. The Initial Study includes mitigation measures to ensure that hazardous waste is used and stored properly and to reduce potential impacts to a less-than-significant level.

Policy PS-4a -- While maintaining the autonomy granted to it pursuant to State zoning laws, implement State and County requirements for the storage, transport, disposal and use of hazardous materials, including requirements for management plans, security precautions, and contingency plans.

Analysis -- Same as analysis for Goal PS-4, see above.

Circulation and Transit Element

Objective CT-1.3 -- Require that circulation and transit system improvements be done in a manner which, to the extent practical, minimizes disturbance of the natural environment and reduces air and noise pollution.

Analysis -- Circulation improvements required by the proposed project would minimize disturbance of the natural environment and would not have significant air or noise pollution impacts.

Policy CT-1k -- Where practical, locate and design improvements and new circulation and transit facilities to minimize disruption of neighborhoods and communities, disturbance of biotic resource areas, destruction of trees, and noise impacts.

Analysis -- The project would connect to existing circulation facilities (the SR 12 corridor). Project design would minimize disruption to SR 12 by providing left and right turn deceleration lanes at the SR 12/project access road intersection. Project design would not be expected to result in disruption to existing neighborhoods or communities.

Objective CT-2.1 -- Reduce congestion on the countywide highway system by maintaining a "C" level of service or better on designated arterial and collector roadways unless a lower level of service is shown on Figures CT-2c and CT-2d on pages 289 - 291, a lower level of service is determined to be acceptable due to environmental or community values existing in some portions of the County, or the project(s) which would cause the lower level of service has an overriding public benefit which outweighs the increased congestion that would result.

Analysis -- Existing conditions along the SR corridor are inconsistent with this *General Plan* objective. For example, the SR 12 corridor is currently operating at LOS E during the Friday AM and PM commute peak traffic hours and Sunday PM peak traffic hour, however, the *General Plan* does not acknowledge this existing condition. *General Plan* Figures CT-2c and CT-2d do not show a level of service lower than LOS C for SR 12. The Initial Study for this project states that although SR 12 is not designated in the *General Plan* for a level of service lower than LOS C, existing conditions in the area of the project site are at LOS E, and it "appears unlikely that this area could obtain the *General Plan* established LOS C without the project." The Initial Study concludes that "it may appear more realistic to assume, as the CMP previously assumed, that LOS E is the established level of service, and that neither the project nor cumulative plus project traffic volumes should increase above LOS E."

Objective CT-2.2 -- Correlate new development with roadway improvements necessary to maintain the countywide levels of service set forth in Objective CT-2.1 or better on arterial and collector roadways as is more fully explained in policy CT-2b.

Analysis -- The project would not result in deterioration of Year 2005 or Year 2012 roadway Level of Service below LOS E, however, project (with or without a special event) additions of traffic would result in travel speed decreases on SR 12 (for instance, decreased by as much as 0.4 miles per hour between Pythian Road and the Project Access during Year 2012 Friday PM commute peak hour). According to the significance criteria used in this EIR, this is not considered a significant impact. Sunday afternoon traffic from concurrent average size special events at all local facilities would decrease travel speeds along SR 12 by about two miles per hour north of Oakmont Drive, by about two miles per hour between Oakmont Drive and Pythian Road, by about 1.7 miles per hour between Pythian Road and the project access driveway, and just over one mile per hour between Adobe Canyon Road and Randolph Avenue. These would be significant impacts. Implementation of Mitigation Measure 5.2-6 would reduce these impacts but not to a less-than-significant level.

Policy CT-2a -- Use the levels of service shown on Figures CT-2c and CT-2d on pages 289 -291 to determine whether or not congestion is exceeding the desired level of service on the countywide highway system. Use area and/or project traffic analyses to determine whether intersection impacts or other localized congestion may also affect these desired levels of service.

Analysis -- See conformance with Policy CT-2.1 above regarding the desired level of service on SR 12. In keeping with Policy CT-2a, the traffic analysis prepared for this project recommends circulation system improvements for 2005 and 2012 Base Case conditions, and provides mitigation measures to improve roadway and intersection operation for impacts resulting from the addition of project-generated traffic.

Policy CT-2b -- Assure that new development occurs only when a funding mechanism is available for improvements needed to achieve these levels of service specified in CT-2a above. If the Board determines that a project will provide significant overriding public benefit, the project may be exempt from this requirement.

Analysis -- This EIR traffic analysis identifies planned and funded improvements to SR 12, as well as any additional improvements needed by years 2005 and 2012. The analysis recommends that the project applicant pay its fair share toward funding these improvements, recognizing that the County must determine all parties responsible for funding participation.

Policy CT-2e -- Primary responsibility for funding intersection, right-of-way, and other needed localized improvements not identified as part of the countywide highway system belongs to individual projects.

Analysis -- This EIR traffic analysis identifies planned and funded improvements to SR 12, as well as any additional improvements needed by years 2005 and 2012. The analysis recommends that the project applicant pay its fair share toward funding these improvements, recognizing that the County must determine all parties responsible for funding participation.

Policy CT-2x -- Primary arterials are highway routes which carry large volumes of intercity or local traffic within urban areas and which place priority on the flow of traffic rather than on access to property. The following standards and those included in Table CT-3 on page 300 apply to "primary arterials":

1. The needed number of travel lanes is indicated on Figures CT-6a through 6i.
2. Allow access from abutting parcels if it does not interfere with traffic function. Encourage consolidation of driveways. Discourage parking, especially during peak hours.

3. Provide continuous left turn lanes in urban areas, where practical. Provide turning lanes at intersections with other arterial and collector highways. Signals shall favor the arterial.
4. Consider requiring urban improvement standards within urban service areas.

Analysis -- SR 12 is a primary arterial, planned to remain a two-lane facility with moderate improvements (turn lanes at intersections or center two-way left turn lanes wherever needed, signalization where warranted, and shoulder widening to eight feet wherever possible). The proposed project would provide left and right turn deceleration lanes at the SR 12/project access road intersection. No project-generated parking would be expected to occur along SR 12. Parking on-site has been found to be more than adequate for the planned uses.

Noise Element

Objective NE-1.3 -- Protect the present noise environment and prevent intrusion of new noise sources which would substantially alter the noise environment.

Analysis -- Impact 5.11-1 discusses noise associated with special events at the winery and recommends mitigation measures to reduce impacts to a less-than-significant level.

Objective NE-1.4 -- Mitigate noise from recreational and tourist serving uses.

Analysis -- Impact 5.11-1 discusses noise associated with special events at the winery and recommends mitigation measures to reduce impacts to a less-than-significant level.

Policy NE-1c -- Control non transportation related noise from new projects. The total noise level resulting from new sources and ambient noise shall not exceed the standards in Table NE-2 as measured at the exterior property line of any affected residential land uses. (Note: certain exceptions are listed in this policy).

Analysis -- *Section 5.11 Noise* uses noise levels as permitted by the *General Plan Noise Element* (Table NE-2 and policy NE-1c) to establish significance criteria to evaluate the proposed project.

Policy NE-1m -- Consider requiring the monitoring of noise levels for discretionary projects to determine if noise levels are in compliance with required standards. The cost of monitoring shall be the responsibility of the applicant.

Analysis -- Mitigation Measure 5.11-1(d) requires the applicant to submit monitoring reports during the initial 12 months of operation of the events pavilion.

4.2 NORTH SONOMA VALLEY SPECIFIC PLAN

The project site is located within the *North Sonoma Valley Specific Plan* area. The *North Sonoma Valley Specific Plan (Specific Plan)* ¹⁵ was adopted in 1981. ¹⁶ The *Specific Plan* describes both the

¹⁵ *North Sonoma Valley Specific Plan*, adopted by the Sonoma County Board of Supervisors on January 5, 1981.

¹⁶ The *North Sonoma Valley Specific Plan* has not been updated since adoption of the 1989 *Sonoma County General Plan*.

natural and the cultural characteristics of the study area as they existed at the time the plan was prepared. The *Specific Plan* establishes goals and policies, a land use plan, and an open space plan for the study area based on the conditions, issues, and values of the community as they existed at the time of preparation.¹⁷

The 1989 *General Plan* includes Policy LU 1a which states that certain “plans” shall be repealed, but development guidelines contained in the plans shall be reviewed and updated and considered for adoption as “local area development guidelines”, provided that they are consistent with the *General Plan*. The policy goes on to state that until such a time that these guidelines are adopted, any policies contained in these plans shall continue to apply provided they are consistent with the *General Plan*. Included in the list of plans to be repealed is the *North Sonoma Valley Specific Plan*. To date, the *North Sonoma Valley Specific Plan* has not been repealed and “local area development guidelines” have not been adopted. The following information from the *North Sonoma Valley Specific Plan* is consistent with the *General Plan*.

Exhibit 4.0-1 shows the *Specific Plan* land use designations for the Graywood Ranch.¹⁸ *Specific Plan* land use designations for the Graywood Ranch include:

General Agriculture 40 – 100 acre density -- This land use designation and density was applied to land to reflect existing parcel pattern, discourage incompatible residential use, and maintain long term agricultural options.

Open Land and Residential 10 – 20 acre density – This land use designation was applied to resource conservation areas where existing parcels are generally less than 20 acres, access is fair and soils are poor. This designation also was applied to foothill areas suitable for a moderate amount of growth without threatening nearby agriculture.

Resource Conservation 40 – 100 acre density – This land use designation was generally applied to undeveloped land. The designation was used on upper mountainsides on both sides of Sonoma Valley where steep slopes, poor soils and poor access occur.

Goal B of the *Specific Plan* is to “protect and enhance profitability of existing agriculture and protect agricultural soils for future generations”. Policy 4 for this goal specifically mentions Graywood Ranch as follows:

In processing subdivisions on parcels of sufficient size and/or with soils suitable for agricultural production, the County will encourage clustering of the parcel’s overall density to minimize potential adverse impacts on agriculture. Where development densities from agriculturally productive soil areas are transferred to clusters on non-productive areas, conservation easements on the productive soil areas will be a condition of subdivision approval. This approach will be applied, but not limited to...Graywood Ranch.¹⁹

¹⁷ The Board of Supervisors appointed a Citizen’s Advisory Committee in April, 1980 to provide a formal mechanism for citizen involvement in the preparation of the *Specific Plan*. The Committee held six public meetings between April and September, 1980. *North Sonoma Valley Specific Plan, Ibid., page 2-3.*

¹⁸ The *Specific Plan*’s land use map designations have not been updated since adoption of the 1989 General Plan.

¹⁹ *North Sonoma Valley Specific Plan, op. cit.*

Goal D of the *Specific Plan* is to “maintain or enhance existing views from Highway 12, other roads, residences and work places”. Relevant polices for this goal are as follows:

Policy 1 Require site review of all new structures within view of Highway 12. All such structures should blend in with the setting and should enhance view if possible.

Policy 2 Locate future subdivisions out of view of Highway 12, and site new structures out of view by use of building site “envelopes” and scenic easements.

Policy 3 Design new subdivisions, roads and structures out of view of Highway 12 so as not to degrade or substantially reduce views from existing roads, residences and work places.

The *Specific Plan’s* Open Space Plan designates a Primary Scenic Corridor on the lower portion of Graywood Ranch closest to State Route 12. The Primary Scenic Corridor is the area immediately adjacent to State Route 12 and other major roads within which any development may have a significant impact on the quality of traveler’s views. The location of the Primary Scenic Corridor was taken directly from the Desirable Open Space Map adopted with the County’s 1974 Zoning Plan.²⁰

According to the *Specific Plan* recreational land use includes state and county operated parks, and privately owned recreational facilities. Activities may include outdoor recreation, camping, lodging and accessory uses which serve people using the recreational facilities.²¹

North Sonoma Valley Specific Plan Amendment

As discussed in **Chapter 3.0 Description of the Proposed Project**, the *Sonoma Country Inn* project proposes a *Specific Plan* amendment to revise the *North Sonoma Valley Specific Plan* Land Use map on 20 acres located on a portion of the proposed inn parcel (Parcel B). It is proposed to change the existing Open Land and Residential designation to the Recreation designation.

Specific Plan Analysis

Below is an assessment of the conformance of the *Sonoma Country Inn* project with the *North Sonoma Valley Specific Plan*.

The *Sonoma Country Inn* project appears consistent with Goal B which is to “protect and enhance profitability of existing agriculture and protect agricultural soils for future generations”.

As discussed in **Section 5.1 Land Use** there is no agricultural production currently on any portion of the project site. The area most suitable for agricultural use on the project site is the valley floor containing Class II and III soils. The majority of this area would be used for wastewater disposal for either the winery or the inn/spa/restaurant. Although not specifically discussed in the applicant’s project description it is possible that the south area could be used simultaneously for waste disposal purposes and agricultural production to take advantage of the agricultural capability of these soils. In a sense therefore, the project would “protect agricultural soils for future generations”.

²⁰ *Ibid*, page 7-2.

²¹ *Ibid*. page 6-10.

Policy 4 for this goal specifically mentions Graywood Ranch. This policy encourages the clustering of the parcel's overall density to minimize potential adverse impact on agriculture and to use conservation easements on the productive soil areas to protect these areas. Although the *Sonoma Country Inn* project does not propose to cluster the residential uses, the development plan generally avoids the area most suitable for agriculture use.

The *Sonoma Country Inn* project may conflict with Goal D of the *Specific Plan* to “maintain or enhance existing views from Highway 12, other roads, residences and work places” and with the relevant policies.

The winery and associated buildings would be set back more than 1,000 feet from State Route 12. As shown in the photosimulations in **Section 5.8 Visual and Aesthetic Quality** the combination of topography and trees would generally screen most of the proposed development from view. However, as discussed in Impact 5.8-3, from State Route 12 (west of Adobe Canyon Road) portions of the proposed project would be highly visible due to the visual contrast of the form and color of the buildings with the immediately surrounding land forms and vegetation.

4.3 ZONING

The Graywood Ranch contains four zoning districts – portions are zoned Diverse Agriculture (DA), Recreation and Visitor Serving Commercial (K), and Resources and Rural Development (RRD). The entire Graywood Ranch is subject to a Scenic Resources (SR) overlay district (see Exhibit 4.0-1).

Similar to the *General Plan* land use designations, PRMD staff has determined that the area zoned Recreation and Visitor Serving Commercial on the Graywood Ranch is incorrect.²² Both the *General Plan* land use and zoning maps designate an area of approximately five acres for Recreation and Visitor Serving Commercial uses. County staff has determined that the 1984 Board of Supervisors approval included a designation of 25 acres for Recreation and Visitor Serving Commercial uses. Therefore, the five acre designation is incorrect and the zoning map should properly show a 25 acre designation.

PRMD staff has also determined that the RRD 60 acre zoning on the portion of the project site designated on the *General Plan* land use map as RRD 100 acre density is incorrect. To be consistent with the *General Plan* land use map designation the correct zoning designation would be RRD 100 acre density.²³

As discussed in **Chapter 3.0 Description of the Proposed Project**, two technical corrections are proposed to the zoning designations. It is proposed to change the RRD 60-acre density designation to RRD 100 acre density and to increase the areas zoned K from approximately five acres to 20 acres. With these technical correction the acres of the Graywood Ranch in each zoning designation is shown in Exhibit 4.0-2. It is also proposed to rezone 292 acres from DA-B7-SR to DA-B6-SR (17 acre density).

²² Letter to Michael Morrison, Common Ground Land Planning Services from Richard C. Rogers, AICP, *op. cit.*

²³ *Ibid.*

CONFORMANCE WITH SONOMA COUNTY ZONING

Below is a discussion of those aspects of the *Sonoma Country Inn* with potential conflicts with the *Sonoma County Zoning Ordinance*.

ARTICLE 42 – K -- RECREATION & VISITOR SERVING COMMERCIAL DISTRICT

As discussed in *Chapter 3.0 Description of the Proposed Project*, a technical correction is proposed to increase the area on the project site zoned K from approximately five acres to 20 acres.

Section 26-42-030 Permitted Residential Density and Development Criteria

In the K district the maximum building intensity of the use of a site shall be determined by multiplying the maximum building height limit and the maximum lot coverage. The specified height or lot coverage limits may be modified if a use permit is first secured and if the maximum building intensity is not exceeded.

The maximum building height is 35 feet and maximum lot coverage is 50 percent, however, additional height and lot coverage may be permitted subject to the paragraph above.

Analysis -- This section of the zoning ordinance would allow construction of a 35 foot tall building on 50 percent of the 20 acres (ten acres) that is zoned K. At a minimum, 435,600 square feet of buildings could be constructed. The inn/spa/restaurant proposes approximately 70,000 square feet of development, therefore the proposed building intensity would be consistent with § 26-42-030.

Although the peak of the roof of the main house would be 35 feet above existing grade, the top of the chimneys would extend beyond 35 feet. The requested Use Permit would need to be modified to include a request to exceed the 35 foot height limit.

ARTICLE 26 – SR -- SCENIC RESOURCES COMBINING DISTRICT

Section 26-42-005 Purpose

The purpose of the SR combining district is to preserve the visual character and scenic resources of lands in the county and to implement the provisions of Sections 2.1, 2.2 and 2.3 of the *General Plan* open space element.

Consistency

Section 26-64-010 Development Criteria

Maximum building heights, minimum lot areas and lot widths, yard requirements and maximum percentages of lot coverage shall comply with the requirements for the districts with which the SR regulations are combined unless otherwise provided for in the zoning code.

Analysis -- The entire project site is subject to the SR combining district. It appears that all of the proposed development would comply with the development criteria of the underlying districts.

Section 26-64-020 Community Separators and Scenic Landscape Units

All structures, except certain telecommunications facilities as provided for in Section 26-64-040, located within community separators and scenic landscape units illustrated on Figures OS-5a through OS-5i, inclusive, of the *General Plan Open Space* element and included within the SR district shall be subject to the following criteria:

- x Structures shall be sited below exposed ridgelines;
- x Structures shall use natural landforms and existing vegetation to screen them from view from public roads. On exposed sites, screening with native, fire resistant plants may be required;
- x Cuts and fills are discouraged, and where practical, driveways are screened from public view;
- x Utilities are placed underground where economically practical;

In addition to the criteria listed above, the following standards apply to subdivisions within community separators and scenic landscape units and included within the SR district unless otherwise provided herein:

- x Building envelopes shall be established for structures. Use of height limitations should be considered, if necessary to further mitigate visual impacts;
- x Clustering shall be used to reduce visual impact where consistent with the applicable base district;
- x Building sites and roadways shall be located to preserve trees and tree stands;
- x To the extent allowed by law, dedication of a permanent scenic or agricultural easement shall be required at the time of subdivision for projects in community separators. Consider requiring such easements in critical scenic landscape units pursuant to general plan Policy OS-2g.

Analysis -- As shown in the photosimulations in *Section 5.8 Visual and Aesthetic Quality* the individual buildings would be sited below exposed ridgelines. Although the proposed project would result in significant tree loss, including removal of a significant number of trees to accommodate roadways and buildings plus for fire protection, the project does use the existing vegetation to generally screen most of the proposed buildings from public view. However, as discussed in Impact 5.8-3, from State Route 12 (west of Adobe Canyon Road) portions of the proposed project would be highly visible due to the visual contrast of the form and color of the buildings with the immediately surrounding land forms and vegetation. Grading would be required to develop on-site roads, parking lots building pads for the inn/spa/restaurant, the winery, plus the 11 residential buildings. Finally, the applicant proposes to underground both electric utility and telephone lines on-site

The Development Plan establishes building envelopes for the single family residences. Limitations on building heights have not been established, however, based on the photosimulations in *Section 5.8 Visual and Aesthetic Quality* building height limitations on the single family residences may not be necessary.²⁴ The project does not propose to cluster the single-family homes, however, due to the screening provided by the existing vegetation clustering to reduce visual impacts may not be

²⁴ The maximum residential building height in the Diverse Agriculture Zoning District is 35 feet.

necessary. The project would result in significant tree loss, including removal of a significant number of trees to accommodate roadways and buildings. Mitigation measures regarding controls on tree removal, careful siting of roads and structures, enhancement and replacement plantings, permanent protection and management of the remaining woodlands would serve to reduce anticipated impacts on tree resources. The project does propose the establishment of four vegetation preserves on-site. However, other areas of the site are not proposed for permanent open space preservation through dedication or the use of conservation easements.

5.0 ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

This chapter contains an analysis of the environmental topics identified by Sonoma County's scoping process for the EIR (Initial Study and Notice of Preparation) described in *Chapter 1.0 Introduction*. Environmental topics addressed in this chapter include

- | | | | | | |
|---|-----|-----------------------------|---|------|------------------------------|
| x | 5.1 | Land Use | x | 5.7 | Geology/Soils |
| x | 5.2 | Traffic and Circulation | x | 5.8 | Visual and Aesthetic Quality |
| x | 5.3 | Hydrology and Water Quality | x | 5.9 | Cultural Resources |
| x | 5.4 | Wastewater Disposal | x | 5.10 | Air Quality |
| x | 5.5 | Water Supply | x | 5.11 | Noise |
| x | 5.6 | Biological Resources | | | |

Sections 5.1 through 5.11 of this chapter describe existing environmental conditions as they relate to each specific topic, identify potential impacts from implementing the proposed project, and present mitigation measures required to reduce significant adverse impacts to a less-than-significant level. Where relevant, cumulative impacts of project buildout combined with other growth elsewhere in the study area are described in Sections 5.1 through 5.11, as discussed in *Section 3.3 Cumulative Development Assumptions*. Cumulative impacts are further discussed in *Section 7.2 Cumulative Impacts*.

FORMAT OF TOPICAL ANALYSES

Existing conditions are described in the respective "setting" sections. These descriptions summarize information compiled during the study process to prepare the EIR. Background materials used in the EIR are referenced in footnotes and listed in the appendices (see *Appendix 8.3 Bibliography*).

Standards used to evaluate the magnitude of impacts are listed in the "significance criteria" subsections for each topic analyzed. Under CEQA, a significant effect is defined as a substantial or potentially substantial adverse change in the environment -- namely, in any of the "physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance". The *State CEQA Guidelines* direct that the significance of impact be determined on the basis of scientific and factual data. The significance criteria were derived from the following main sources -- the *State CEQA Guidelines*, *Sonoma County General Plan*, environmental documents prepared recently on other projects in Sonoma County, and the professional standards and practices of the technical analysts who conducted the EIR evaluations.

The "impacts and mitigation" subsections identify three types of environmental effects from implementing the project:

- x **Significant Unavoidable Impact** A significant (or potentially significant) impact which cannot be avoided with mitigation. These include impacts which could be partly mitigated but could not be reduced to a less-than-significant level. (A potentially significant impact is identified when not enough information is known to determine if the impact would be significant.)

- x **Significant Impact** A significant (or potentially significant) impact which can be mitigated to a less-than-significant level.
- x **Less-than-Significant Impact** A change or effect directly or indirectly attributable to the project which would not exceed the threshold(s) of significance.

All impacts are numbered consecutively by topic. Significant unavoidable and significant impacts are followed by measures required to reduce the magnitude of impact. No mitigation measures are required for less-than-significant impacts. Mitigation measures also are numbered to correspond to the respective impacts.

For each significant unavoidable impact identified in the Final EIR, Sonoma County would be required to adopt findings and a Statement of Overriding Considerations explaining the reasons for approving the project (if approved) despite the impacts identified.

5.1 LAND USE

Land Use – The Setting

PROJECT SITE

The project site is vacant. There is no agricultural production currently on any portion of the project site. A number of unpaved (dirt) roads exist on the project site.

NEARBY LAND USES

To the north the project site is bounded by Hood Mountain County Park, containing primarily chaparral-covered slopes, with some mixed hardwood forest.

To the west is the remaining portion of the original Graywood Ranch, with open grasslands, riparian forest, and mixed hardwood forest. Four single-family residences plus various miscellaneous buildings (one second unit, a pool and pool house, barns, and leachfields) exist on the remaining 290 acres of the Graywood Ranch.

A private dirt airstrip also exists on the remaining portion of the Graywood Ranch. The airstrip is adjacent to the existing access road for the Graywood Ranch. The airstrip lies diagonally across the westerly portion of the Graywood Ranch, beginning at the access road approximately 800 feet north of State Route 12 (SR 12) and heading in a northerly direction toward the existing buildings. This airstrip was approved by Sonoma County in 1959.¹ Among the conditions of approval are the following:

- x The airstrip shall be marked closed to the general public by painting ten foot white X's on the runway.
- x The airstrip use shall be restricted to daylight hours of operation.

The airstrip is primarily used for the personal use of the current property owner (Lendal Gray).² At the EIR scoping meeting it was mentioned that use of the airstrip seems to be increasing and recently

¹ Sonoma County Planning Commission Resolution 3464, February 19, 1959.

² Although the airstrip is primarily for the personal use of the property owner, Mr. Gray did acknowledge that he occasionally allows a few of his close friends to also use the airstrip. Nichols x Berman conversation with Lendal Gray, June 2002.

there was a “dogfight” with two planes over the Graywood Ranch. No additional documentation of increased use of the airstrip, however, was available.³

The airstrip on the Graywood Ranch is exempt from State of California permitting requirements as a personal-use airport.⁴

To the east of the project site is a mix of private land uses including vineyards, residences, and forested land. Sonoma Creek is east of the project site. East of the proposed inn/spa/restaurant (parcel B) and south of residential lot 8 is a vineyard owned by Francesco Vineyards. Currently the edge of the vineyard is about 450 feet from the project site’s boundary.

State Route 12 is to the south of the project site and across SR 12 there is a combination of residences, orchards, and other farmlands.

Adobe Canyon Road is approximately 0.6 mile east of the project site. The Vineyards Inn restaurant is located at the northeast corner of the intersection of SR 12 and Adobe Canyon Road. North of SR 12 on Adobe Canyon Road is the Landmark Winery and further north is Sugarloaf Ridge State Park. The Robert Ferguson Observatory is located in Sugarloaf Ridge State Park at elevation 1,275 feet. The telescopes and facilities at the Robert Ferguson Observatory were built and are operated and maintained by the Valley of the Moon Observatory Association (VMOA), a non-profit association. The VMOA sponsors year-round public programs and events at the Observatory.

East of Adobe Canyon Road, on SR 12 is the entrance to Chateau St. Jean winery. On the south side of SR 12, near Adobe Canyon Road, is the Blackstone Winery.

West of the project site, north of SR 12, along Pythian Road is the St. Francis Winery and vineyards. Pythian Road also provides access to the Los Guilicos County Complex. Further west along SR 12 is the Ledson Winery.

General Plan Agricultural Designations

The *Sonoma County General Plan* includes three agricultural use categories: Land Intensive Agriculture, Land Extensive Agriculture, and Diverse Agriculture.

As discussed in **Section 4.0 Consistency with Public Plans and Zoning** approximately 307 acres of the 476 acre Graywood Ranch are currently designated Diverse Agriculture. With implementation of the technical corrections to the land use designations the amount of land designated Diverse Agriculture would be reduced to approximately 292 acres (see Exhibit 4.0-2). With the exception of the area designated Recreation and Visitor Serving Commercial, on the project site it is primarily the south area and the plateau area that is designated Diverse Agricultural. Adjacent to the project site, generally east and south of the proposed inn/spa/restaurant (Parcel B) and south of residential lot 8 the

³ Mr. Gray was unaware of circumstances where personal friends of his using the airstrip were flying in such a manner to pose a hazard to nearby areas. Nichols x Berman conversation with Lendal Gray, June 2002.

⁴ Nichols x Berman conversation with Dan Gargas, Aviation Safety Office, Division of Aeronautics, California Department of Transportation, June, 2002. A personal use airport is defined as an airport limited to the noncommercial activities of an individual owner or family and occasional invited guests. See California Code of Regulations, Title 21 Section 3525 through 3560 *Airports and Heliports*.

area is designated Land Intensive Agriculture. West of the western boundary of Graywood Ranch land is also designated Land Intensive Agriculture.

FARMLAND MAPPING AND MONITORING PROGRAM (FMMP) FARMLAND CLASSES

As of 2000, Sonoma County has approximately 606,551 acres of agricultural land (59 percent of the County).⁵ Of that total, 173,867 acres (about 17 percent of the County) were classified as important farmlands (using California Department of Conservation [CDC] definitions) and 432,684 acres were designated as Grazing Land⁶ (42 percent). Important farmland categories represent the agricultural lands most suitable for cultivating crops, and include Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance,⁷ as described below.

The County's supply of agricultural land has increased since 1992. Between 1992 and 2002 the amount of Prime Farmland, Farmland of Statewide Importance and Unique Farmland increased (gain of 15,285 acres) while the amount of Farmland of Local Importance decreased (loss of 10,029 acres).⁸ Part of this change is due to adjustments to boundaries and corrections made to soil unit identification throughout the county by the California Department of Conservation. Part of the increase in farmland is also likely due to vineyard additions and corresponding irrigation which may result in the reclassification of land.

Farmland classes are described below:

- x **Prime Farmland** Lands with the best combination of physical and chemical features able to sustain long term production of agricultural crops. The land must be cropped and be supported by a developed irrigation water supply that is dependable and of adequate quality during the growing season. Land must have been used for production of irrigated crops at some time during the two update cycles prior to the mapping date.
- x **Farmland of Statewide Importance** Lands similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. These lands have the same reliable source of adequate quality irrigation water available during the growing season. Land must have been used for production of irrigated crops at some time during the two update cycles prior to the mapping date.
- x **Unique Farmland** Less quality soils used for production of the State's leading agricultural crops. These lands are usually irrigated, but may include non-irrigated orchards or vineyards as found in

⁵ *California Farmland Conversion Report—1998 - 2000*, prepared by the staff of the Farmland Mapping and Monitoring Program, California Department of Conservation, June 2002.

⁶ The CDC defines Grazing as land where existing vegetation is suitable for grazing or browsing, whether grown naturally or through management.

⁷ Based on the California Department of Conservation's definition of important farmland, there are 37,029 acres of Prime Farmland in Sonoma County, 18,914 acres of Farmland of Statewide Importance, 30,290 acres of Unique Farmland, and 87,634 acres of Farmland of Local Importance. These four types of important farmland plus Grazing Land constitute the agricultural lands mapped by the State.

⁸ California Farmland Conversion Reports 1992 through 2000, California Department of Conservation.

some climatic zones of California. Land must have been cropped at some time during the two update cycles prior to the mapping date.

- x **Farmland of Local Importance** Land of importance to the local agricultural economy as determined by each county's board of supervisors and local advisory committees. In Sonoma County these farmlands include the hayland producing areas of the Santa Rosa Plains, Petaluma Valley, and Tubbs Island Naval Reservation. Additional areas also include those lands which are classified as having the capability for producing locally important crops such as grapes, corn, etc., but may not be planted at the present time.
- x **Grazing Land** Lands of at least 40 acres on which the existing vegetation is suited to the grazing of livestock.
- x **Urban and Built-Up Land** Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a ten-acre parcel.
- x **Other Land** Lands which do not meet the criteria of any other category.

Portions of the *Sonoma Country Inn* project site are designated Farmland of Local Importance, Grazing Land, and Other. No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance exist on the project site.

Soil Types

Five types of soils are present on the project site as shown in Exhibit 5.1-1

**EXHIBIT 5.1-1
 SOILS TYPES**

Soil type	Slope	SCS Rating	Site Coverage
Goulding clay loam (GgD)	5 to 15 percent	IIIe-1	20.4 percent (38 acres)
Goulding clay loam (Ggf)	30 to 50 percent	VIe-1	16.4 percent (30 acres)
Kidd very rocky loam (KkG)	30 to 75 percent	VIIIs-8	31.9 percent (59 acres)
Los Robles gravelly clay loam (LuA)	0 to 2 percent	IIs-4	4.0 percent (7 acres)
Red Hill clay loam (RhD)	2 to 15 percent	IIIe-1	17.9 percent (33 acres)
Forward gravelly loam (FoE)	9 to 30 percent	VIe-8	9.4 percent (17 acres)

Source: *Soil Survey of Sonoma County*, Soil Conservation Service (SCS) of the U.S. Department of Agriculture, May 1972.

The Soil Conservation Service rates soils by the use of a capability classification. Capability classes are designated by Roman numerals I through VIII.⁹ The numerals indicate progressively greater limitations and narrower choices for practical uses.

- x Class I soils have few limitations that restrict their use. There are no Class I soils on the project site.
- x Class II soils have some limitations that reduce the choice of plants or that require moderate conservation practices. There are seven acres of Class II soils on the project site.
- x Class III soils have severe limitations that reduce the choice of plants, require special conservation practices, or both. There are 71 acres of Class III soils on the project site.
- x Class VI soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture, range, woodland, or wildlife habitat. There are 47 acres of Class VI soils on the project site.
- x Class VII soils have very severe limitations that make them unsuited to cultivation and restrict their use largely to pasture, range, woodland, or wildlife habitat. There are 59 acres of Class VII soils on the project site.

URBAN/RURAL CONFLICTS

Opportunities for urban/rural conflicts occur at the interface of agricultural and non-agricultural uses. Development introduces new residents into an area who are exposed to and/or interfere with agricultural operations. Depending on the types of contiguous agricultural operations, visitors and resident's complaints typically involve dust, odors, noise, presence of pests, manure, or where agricultural chemicals are applied, spray drift.

Agriculturists' complaints generally include trespass, vandalism, and theft. Even when people move to an area expressly for its rural character, these conflicts can occur as a result of their expectations, urban values, and essentially residential (not agricultural) activities.

In Sonoma County, residents, trail users, and visitors most frequently complain about the use of pesticides, dust from cultivation, noise, and odors from vineyard and winery operations. Noise complaints often result from the use of frost protection wind turbines in the winter and bird control guns during harvest season. In addition it is becoming more common to conduct harvest activities at night which leads to additional noise complaints.¹⁰

Sonoma County has undertaken several actions to reduce urban/rural conflicts including enactment of a Right to Farm ordinance and establishment of agricultural setbacks.

⁹ In addition to the capability classes there are capability subclasses that are soils groups within one class and are designated by adding a small letter, *e*, *w*, *s*, or *c* to the class numeral. Capability units are soil groups within the subclasses. Capability units are given Arabic numerals 0 through 10. See *Soil Survey of Sonoma County*, U.S. Soil Conservation Service, 1972, pages 93 through 102 for a further discussion of capability grouping.

¹⁰ Nichols x Berman conversation with Gail Davis, Agriculture and Vineyard Conservation Coordinator, Office of the Agricultural Commissioner, July 2002.

Sonoma County's Right to Farm ordinance was originally adopted in 1988 and revised in 1999.¹¹ The major features of the Right to Farm ordinance include:

- x Farmers and ranchers have a "right" to conduct their agricultural operations in a manner that is legal and consistent with accepted customs and standards for similar agricultural operations in Sonoma County.
- x A legal, properly conducted agricultural operation will not be considered a nuisance under the Sonoma County Code.
- x Neighbors are not prohibited from filing complaints about agricultural activities, and farmers are not excused from their obligations to observe applicable laws and operate in a responsible manner.
- x Notice and disclosure requirements include:
 - à Disclosure required with annual property tax bills.
 - à Sellers of property within the unincorporated county must disclose Right to Farm ordinance provisions to prospective buyers.
 - à Recordation of Right to Farm acknowledgement required for issuance of certain land development approvals on or within 300 feet of agricultural lands.

In addition to the Right to Farm ordinance the County has established provisions to establish agricultural setbacks.¹² The County ordinance provides for an establishment of a buffer between agricultural operations on lands designated agricultural in the *Sonoma County General Plan* and adjacent non-agricultural land uses. Generally the buffer is defined as a physical separation of 100 to 200 feet.

Land Use – Significance Criteria

The land use analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant land use impact if it would:

- x Physically divide an established community.
- x Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- x Conflict with any applicable habitat conservation plan or natural community conservation plan.

¹¹ Sonoma County Ordinance No. 5203, approved by the Board of Supervisors, October 19, 1999.

¹² Sonoma County Ordinance No. 4101, approved by the Board of Supervisors, November 7, 1989.

For agricultural resources the project would have a significant impact if it would:

- x Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- x Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- x Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use.

Under CEQA, induced growth is not considered necessarily detrimental or beneficial (*State CEQA Guidelines* section 15126.2[d]). Induced growth is only significant if:

- x The induced growth directly (or indirectly) may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.
- x The induced growth, in some other way, could significantly affect the environment.

A project is deemed to have growth-inducing impacts when it would facilitate or serve as a catalyst to growth which would not normally otherwise occur or would occur at a slower rate.

Land Use – Impacts and Mitigations

Impact 5.1-1 Conflict with Applicable Land Use Plan, Policy, or Regulation

Implementation of the proposed project would result in potential conflicts with the Sonoma County General Plan and North Sonoma Valley Specific Plan resulting in adverse physical effects. These impacts are discussed in Sections 5.1 Land Use, 5.2 Traffic and Circulation, 5.6 Biological Resources, and 5.8 Visual and Aesthetic Quality.

Chapter 4.0 Consistency with Public Plans and Zoning discusses the consistency of the proposed project with the relevant portions of the *Sonoma County General Plan, North Sonoma Valley Specific Plan, and Sonoma County Zoning Ordinance*. Inconsistency with public plans creates significant impacts under CEQA only when an adverse physical effect would result from the inconsistency. These significant impacts are addressed in the relevant sections of this EIR (see in **Sections 5.1 Land Use, 5.2 Traffic and Circulation, 5.6 Biological Resources, and 5.8 Visual and Aesthetic Quality.**) Mitigation required to reduce significant impacts under CEQA would bring the project into conformance with applicable policies.

A summary of where potential inconsistencies with adopted plans would result in an adverse physical effect are discussed below:

Sonoma County General Plan

To the extent that the proposed project would conflict with Goal LU-8, Objective LU-8.4 and Objective AR-3.2 there would be compatibility issues with adjacent agricultural uses. Mitigation measures required by this EIR (see Mitigation Measure 5.1-4) would reduce these impacts to a less-than-significant level.

State Route 12 operating conditions with cumulative average size special events would result in LOS E operating conditions. This would conflict with Objective CT-2.2. Mitigation Measure 5.2-6 would reduce this impact but not to a less-than-significant level.

The effect of proposed development and its effect on biological and wetland resources if unmitigated would conflict with a number of the relevant objectives, policies and programs in the *Sonoma County General Plan*. These policies tend to be fairly general, but basically call for protection of sensitive biological and wetland resources. These include: Policies RC-2e and RC-5c regarding protection of native vegetation and trees; Objective RC-5.4 regarding identification and protection of valley oak habitat; Objective RC-5.1 to identify and protect areas with important wildlife habitat and woodland resources; and Goal RC-6, Objectives RC-6.1 and RC-6.2, and Policy RC-6b regarding protection of rare and endangered species. The few policies regarding wetlands and riparian corridors relate specifically to locations designated under the Biotic Resource combining district in the General Plan which do not extend over the site, although the review and permitting by trustee agencies would serve to provide additional protection of these resources. The potential impacts of the project on sensitive resources would conflict with the intent of the relevant goals, objectives, and policies. However, mitigation required by this EIR and as part of the consultation process with the U.S. Army Corps of Engineers, California Department of Fish and Game, and Regional Water Quality Control Board should ensure that adverse impacts are adequately mitigated and general compliance with applicable policies is provided by the project.

The proposed project would generally be in compliance with County ordinances related to tree protection. The stands of valley oak on the valley floor would be protected as part of the proposed preserves and removal of other oaks would be minimized by siting improvements around mature trees to the extent possible. Anticipated tree removal would not exceed the 50 percent threshold necessary for compliance with the tree protection ordinance, for both valley oak and other protected trees. Mitigation required by this EIR would serve to further minimize tree removal and the habitat values woodland and forest cover provide to wildlife. The project site is not within the area designated under the valley oak habitat ordinance and there are no designated heritage trees on the project site.

To the extent that the project would conflict with Objectives NE-1.3 and NE-1.4 the project would result in significant noise impacts. Mitigation measures required by this EIR (see Mitigation Measure 5.11-1) would reduce these impacts to a less-than-significant level.

North Sonoma Valley Specific Plan

To the extent that the project would conflict with Goal D of the *North Sonoma Valley Specific Plan* the view from State Route 12 west of Adobe Canyon Road looking north would be a significant visual impact. Mitigation measures required by this EIR (see Mitigation Measure 5.8-3) would reduce this impact to a less-than-significant level.

Sonoma County Zoning Ordinance

Although the proposed project may conflict with certain provisions of the Sonoma County Zoning Ordinance such conflicts would not result in adverse physical effects. With the issuance of the requested use permit the proposed project would not conflict with the site's Diverse Agriculture (DA) zoning designation.

Habitat Conservation Plan

No habitat conservation plans have been prepared addressing the site and surrounding lands, and the project would therefore not conflict with any adopted habitat conservation plans.

Mitigation Measure 5.1-1 Mitigation measures are recommended in the relevant sections of the EIR to mitigate the adverse physical effects resulting from the conflict with relevant applicable land use plans.

Significance after Mitigation Implementation of the mitigation measures would reduce the majority of the identified physical effects resulting from the conflict with the relevant land use plans to a less-than-significant level. In specific instances, however, such as the potential conflict with Objective CT-2.2 these impacts would remain significant and unavoidable. See **Section 5.2 Traffic and Circulation** for further discussion of these impacts.

Impact 5.1-2 Agricultural Lands

Implementation of the proposed project would not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. This impact would be less-than-significant.

There is no agricultural production currently on any portion of the project site, therefore implementation of the proposed project would not displace any area currently used for agricultural production. Furthermore, implementation of the proposed project would not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as defined by the Farmland Mapping and Monitoring Program of the California Resources Department, to non-agricultural use.

The project site is not covered by a Williamson Act contract, therefore implementation of the proposed project would not result in the cancellation of a Williamson Act contract.

A portion of the project site is zoned Diverse Agriculture, whose purpose is “to enhance and protect those land areas where soil, climate and water conditions support farming but where small acreage intensive farming and part-time farming activities are predominant, but where farming may not be the principal occupation of the farmer; and to implement the provisions of the diverse agriculture land use category of the general plan and the policies of the agricultural resource element”.¹³

The applicant’s stated objectives for the project site do not explicitly address agricultural uses on the project site. The area most suitable for agricultural use on the project site is the valley floor containing Class II and III soils. The majority of this area would be used for wastewater disposal for either the winery or the inn/spa/restaurant. Although not specifically discussed in the applicant’s project description it is possible that the south area could be used simultaneously for waste disposal purposes and agricultural production to take advantage of the agricultural capability of these soils.¹⁴ Planting of new vineyards in this area of the project site would require compliance with the County’s Vineyard Erosion and Sediment Control Ordinance.

¹³ Sonoma County Code 26-08-005.

¹⁴ The areas proposed for the valley oak tree preserve and the perennial grassland preserve would not, however, be available for future agricultural use.

Concerns with using the waste disposal area for agriculture include the spacing of the pipes/trenches, effluent quality and quantity, and compaction of the leachfields from agricultural equipment. The project's proposed wastewater disposal practice includes traditional rock-filled leaching trenches¹⁵ in the lower portion of the project site, as well as reserve (expansion) wastewater disposal fields in this portion of the project site. The spacing of the leachfield trenches and pipes would have to allow room for the crop rows. Also, the crop rows would have to be planted parallel to the trenches/pipes. If an above ground mound system is used, then the area would not be suitable for agricultural use.

Effluent quality and quantity affect the health of the crop. The quantity of effluent/irrigation water would have to be regulated to ensure that over- or under-watering does not occur. Nutrient levels in the effluent/irrigation water would have to be controlled, and the design of the pretreatment system may have to be altered to produce the desired nutrient levels for irrigation. It would be easier to design this into the pretreatment system initially, rather than changing the design and replacing the pretreatment system later on. However, it would probably be more expensive for the applicant to pretreat the effluent to the level necessary for agricultural irrigation water. In regards to environmental health concerns, Title 22 of the California Code of Regulations (Article 2, Section 60305(b)) allows for the use of undisinfected secondary recycled water (or better) in vineyard and orchard irrigation, provided there is no contact between the edible portion and the recycled water. Since a subsurface system is proposed, such contact would not occur. Food crops where the edible portion is produced above ground and is not contacted by recycled water must be adequately disinfected, oxidized wastewater, with a median number of coliforms not exceeding 2.2/100 mL (Section 60305(a)).

Mitigation Measure 5.1-2 No mitigation would be required.

Impact 5.1-3 Compatibility with Adjacent Private Airstrip

The introduction of new uses (especially the proposed inn/spa/restaurant and winery uses) on the project site could result in conflicts with the adjacent airstrip. This would be a significant impact.

Although the airstrip on the Graywood Ranch is currently used regularly by only one airplane and air traffic is very light, the airstrip could potentially cause a safety hazard to future residents, employees, and guests of the *Sonoma Country Inn* project as airplanes fly low to the ground as they cross the access road. The airstrip is designated as remaining on the proposed Tentative Subdivision Map for the other portion of the Graywood Ranch.¹⁶

In order to minimize potential conflicts, the project applicant has an agreement with the adjacent property owner (Lendal Gray) regarding the operation of the airstrip. The agreement states:¹⁷

¹⁵ The shallow trenches may be constructed as shallow in-ground trenches, above ground mound type systems, or any other approved means that would meet groundwater separation standards.

¹⁶ Graywood Ranch Tentative Map, prepared by Adobe Associates, Inc., May 21, 2001. The proposed tentative map actually shows two "existing landing strips", the airstrip described above plus a second airstrip headed in an east-west direction parallel to and about 800 feet north of State Route 12. The second strip is not evident in the field.

¹⁷ Letter to Tim Mayer, Environmental Review Manager, Sonoma County from Mark T. Harmon, Graywood Ranch, LLC, (project applicant), February 5, 2002.

- x No commercial use of the airstrip
- x Use by one person only (Lendal Gray)
- x The use will terminate after either 24 months of non-use or the death of Lendal Gray; and
- x The use shall not interfere with the hotel or winery use.

Mitigation Measure 5.1-3 The following mitigation measures would be required to mitigate potential conflicts with the adjacent existing airstrip.

- (1) Documentation of the agreement between the airstrip owner and the owner of the *Sonoma Country Inn* project shall be provided to the Permit and Resource Management Department.
- (2) Signage shall be posted on the access road, in both directions before reaching the airstrip, to warn visitors and others that a low-flying airplane may be taking off or landing from/on the airstrip.

Significance after Mitigation Implementation of Mitigation Measure 5.1-3 would reduce significant impacts to a less-than-significant level.

Responsibility and Monitoring Prior to initial occupancy of the project site the project applicant shall submit to, and the Permit and Resource Management Department shall approve, documentation of the agreement between the airstrip owner and the project applicant.

The need to construct the necessary warning signs shall be a condition of approval of the tentative map/Use Permit.

Impact 5.1-4 Compatibility with Adjacent Land Uses ¹⁸

Use of the project site for visitor-serving uses plus residential uses could introduce uses on the site incompatible with adjacent agricultural use which may result in urban-rural conflicts. Potential conflicts at the interface of agricultural and non-agricultural lands would be a significant impact.

In a preliminary review of the proposed project representatives of the County's Office of the Agricultural Commissioner expressed concerns with the proposed project's impacts affecting neighboring agricultural resources or operations. ¹⁹ Of specific concern would be that future residents and visitors to the *Sonoma Country Inn* would complain about the operation of the adjacent Francesco Vineyards. Complaints would likely involve dust, odors, noise, and pesticide application.

The Francesco Vineyards property is located east of the inn/spa/restaurant (Parcel B) and south of residential lot 8. Although the Francesco Vineyards property line is contiguous with the project site

¹⁸ Public comments during the scoping process expressed concerns about potential light pollution impacts of the proposed *Sonoma Country Inn* project and related compatibility issues with the Robert Ferguson Observatory located in Sugarloaf Ridge State Park. These impacts are discussed in **Section 5.8 Visual and Aesthetic Quality**.

¹⁹ Memo to Denise Peter, Planner Sonoma Permit and Resources Management from Priscilla Lane, Senior Agricultural Biologist, Office of the Agricultural Commissioner, July 5, 2002 and Nichols x Berman conversation with Priscilla Lane, Senior Agricultural Biologist, Office of the Agricultural Commissioner, July, 2002.

boundary currently the edge of the planted vineyard is about 450 feet from the project site's boundary. However, because the Sonoma County Vineyard Erosion and Sediment Control Ordinance allows for expansion of vineyards on lands up to a 50 percent slope it is possible that the Francesco vineyard could be expanded closer to the project site's boundary.²⁰

The Francesco Vineyards property is the only property contiguous to the project site that has a *General Plan* designation of Land Intensive Agriculture (LIA). Portions of the project site and the remaining portion of Graywood Ranch are designated by the *General Plan* as Diverse Agricultural (DA). Although there is no agricultural production currently on the remaining portion of the Graywood Ranch it is possible that agricultural uses could be introduced in the future.

One of the recommendations of the Office of the Agricultural Commissioner was that a 25 foot wide landscaped buffer, consisting of evergreen trees and shrubs be provided on the east side of the winery parcel to screen the proposed special events from vineyards.²¹ As discussed in **Section 5.6 Biological Resources**, the project proposes a Grassland Preserve on the east side of the winery parcel adjacent to Graywood Creek. The dense riparian vegetation already serves as a screen for the eastern half of the winery parcel, and Mitigation Measure 5.6-2(a) requires the enhancement of the western segment of the Graywood Creek corridor (for tree mitigation and other mitigation). The existing conditions plus the proposed mitigation would, therefore, provide the screening requested by the Office of the Agricultural Commissioner without the establishment of a 25 foot wide row of trees on the property line, which would conflict with the grassland preserve area.

Concern was also expressed that use of the proposed trail would conflict with adjacent agricultural uses.²² One of the recommendations of the Office of the Agricultural Commissioner was that a six foot high fence be installed on all sides of the proposed trail route that abut parcels in agricultural production.²³

County Regional Parks staff believes that a fence on both sides of the trail is not necessary. County Regional Parks staff is aware of numerous trails in Sonoma County that pass through lands that have an agricultural zoning designation and are in agricultural production without incident.²⁴

As proposed the trail would not abut any parcels currently in agricultural production. Furthermore, the trail is proposed to the west of the main access road (Road A) and therefore it is likely that the road would provide an adequate buffer between trail users and potential agricultural use on the project site to the east. As discussed above, currently there is no agricultural production on the remaining portion

²⁰ Nichols x Berman conversation with Gail Davis, Agriculture and Vineyard Conservation Coordinator, Office of the Agricultural Commissioner, July 2002.

²¹ Memo to Denise Peter, Planner Sonoma Permit and Resources Management from Priscilla Lane, *op. cit.*

²² Nichols x Berman conversation with Priscilla Lane, *op. cit.*

²³ Memo to Denise Peter, Planner Sonoma Permit and Resources Management from Priscilla Lane, *op. cit.*

²⁴ Memo to Sandra Cleisz, Cleisz Planning & Design from Philip Sales, Park Planning & Design Administrator, Regional Parks, January 3, 2002. Three examples that Mr. Sales cites where a trail passes agricultural land without incident are the Joe Rodota Trail, the West County Regional Trail, and the Sonoma Bike Path.

of the Graywood Ranch, west of the proposed trail. Since the proposed trail would not abut parcels in agricultural production a six foot high fence along sides of the trail would not be necessary.

Mitigation as a Part of the Project

Certain aspects of the County's regulations and the layout of the proposed project would serve to reduce the potential for urban/rural conflicts.

For example, the edge of the building envelope for residential lot 8 is shown more than one hundred feet from the southern edge of the lot boundary (see Exhibit 3.0-8) and the buildings of the inn/spa/restaurant are more than one hundred feet from the boundary of the vineyard parcel (see Exhibit 3.0- 10). These setbacks are considered sufficient to mitigate potential urban/rural conflicts and would be consistent with the County's ordinance to establish agricultural setbacks.²⁵

In addition to the agricultural setbacks, the County's Right to Farm ordinance would further reduce the potential for urban/rural conflicts. The County's Right to Farm Ordinance will provide notice to potential buyers of the 11 single family residences on the project site that adjacent agricultural uses may at certain times result in inconveniences or nuisance. For example, the County's Right to Farm Ordinance requires:

- x A disclosure statement be included with annual property tax bills.
- x Sellers of the residential lots on the project site to disclose the Right to Farm ordinance provisions to prospective buyers.

Provisions of the County's Right to Farm Ordinance will assist in mitigating potential urban-rural conflicts.

Mitigation Measure 5.1-4 The following mitigation measures would be required to mitigate potential conflicts with the adjacent agricultural uses.

- (1) A note shall be placed on the final map as follows:
 - à Agricultural uses occur in this area and pesticide applications, dust, odor and other nuisances associated with agricultural activities may occur.
- (2) A Right to Farm declaration shall be recorded on the property to notify prospective buyers that at the time of hire employees and at the time of check in guests at the *Sonoma Country Inn* shall be provided notification as follows:
 - à The *Sonoma Country Inn* is located adjacent to agricultural lands and pesticide applications, dust, odor and other nuisances associated with agricultural activities may occur.
- (3) A 100-foot agricultural setback shall be established and maintained on the east side of parcel B (the inn parcel) and the south side of residential lot 8. The setbacks shall be shown on the final map.

²⁵ Nichols x Berman conversation with Priscilla Lane, *op. cit.*

Significance after Mitigation Implementation of Mitigation Measure 5.1-4 would reduce significant impacts to a less-than-significant level.

Responsibility and Monitoring The applicant would be responsible to implement Mitigation Measure 5.1-4. The Permit and Resource Management Department shall insure that the final map includes the required notes.

Prior to initial occupancy of the project site the project applicant shall submit, and the Permit and Resource Management Department shall approve, the disclosure statement to be provided to employees and guests.

Impact 5.1-5 Cumulative Compatibility with Adjacent Land Uses Impacts

Cumulative projects within the area could result in increased conflicts with agricultural uses. The project's contribution to the cumulative impacts would not be cumulatively considerable and therefore this cumulative impact would be less-than-significant.

The cumulative development assumptions prepared for this EIR include 12 projects that are approved, under review, under construction or are reasonably expected to be proposed in the vicinity of the project site.²⁶ Of the 12 projects eight would involve construction of or increased capacity of an existing winery and/or increased attendance or event capacity. Increased attendance at special events could lead to compatibility issues with adjacent agricultural uses.

With implementation of Mitigation Measure 5.1-4 the proposed project's compatibility impacts with adjacent land uses would be reduced to a less-than-significant level. The proposed project's contribution to a potential cumulative impact would not be cumulatively considerable and therefore would be less-than-significant.

Mitigation Measure 5.1-5 No mitigation would be necessary.

Impact 5.1-6 Growth Inducing Impacts

Development of the Sonoma Country Inn project would not remove obstacles to growth, would not set a precedent for similar future projects, nor lead to enlarged public services. The project would have less-than-significant growth inducing impacts.

A proposed project can have a growth inducing impact if development of that project removes obstacles to future development. One type of growth-inducing impact is purely physical, by creating and making available an infrastructure that can lead to easier future development. This type of impact can include the construction of roadways, water, sewer, and other urban services into previously difficult-to-access areas. A second type of impact can be the setting of precedents that might allow similar development to occur in the future. Examples include a development that allows growth into an area previously closed to development (such as in an agricultural preserve), or development allowed in an area that was previously closed to that particular type of growth (such as rezoning a residential area to allow commercial development).

The proposed project would not be regarded as setting a precedent that would allow similar development to occur in the future. The amount and type of growth proposed for the project has

²⁶ See Section 3.3 *Cumulative Development Assumptions* for further discussion of the cumulative projects.

already been foreseen by the *Sonoma County General Plan*. Although the proposed project would require a general plan amendment to ensure consistency, *General Plan* policy LU-14r clearly permits visitor serving and residential development on the project site of the type proposed here. Furthermore, the site's Recreation and Visitor Serving Commercial Zoning allows, with the issuance of a use permit, hotels, motels and other lodging facilities of up to 50 rooms on the project site and the site's Diverse Agriculture District allows single-family detached dwelling units as proposed and the processing of agricultural products as proposed with the winery. Public planning documents foresee the development of the project site and implementation of the *Sonoma Country Inn* would "build out" the project site.

The proposed project would not involve the extension of utilities such as water and wastewater facilities to the project site. Consistent with *General Plan* policy the project does not propose annexation or inclusion in spheres of influence for sewer and water service. The project proposes to dispose of wastewater on-site and to develop an on-site water system using wells. The development of on-site water and wastewater systems would not create utilities that would in turn be available for future development on adjacent property.

The project site is served by the Kenwood Fire District, County Sheriff, Kenwood School, and Santa Rosa City School Districts. According to the Initial Study these facilities are adequate to serve the proposed project.²⁷ Therefore, development of the project site would not require these service agencies to expand their facilities to serve the project.

In conclusion, for the reasons stated above, the proposed project is not expected to induce growth on adjacent lands and, therefore, would not have significant growth inducing impacts.

Mitigation Measure 5.1-6 No mitigation would be required.

²⁷ *Environmental Checklist Form Sonoma Country Inn*, County of Sonoma, April 26, 2002.

5.2 TRAFFIC AND CIRCULATION

Traffic and Circulation – The Setting

INTRODUCTION

This section presents the circulation impacts due to traffic associated with the proposed *Sonoma Country Inn* project along State Route 12 (SR 12) east of Santa Rosa and west of the Lawndale Road intersection near Kenwood (see Exhibit 5.2-1).¹

Impacts have been determined for summer Friday morning and evening commute peak traffic hours, as well as for summer Sunday afternoon peak traffic conditions for year 2005 and 2012 planning horizons. Impacts have also been determined for project average size special events that would occur on Friday evenings and on weekends. Sunday afternoon impacts have also been determined for year 2005 and 2012 conditions with concurrent average size special events at the proposed *Sonoma Country Inn* and other wineries and facilities in the Kenwood area. Project on-site circulation and parking has been evaluated, as have construction period impacts.

TRAFFIC AND CIRCULATION - THE SETTING

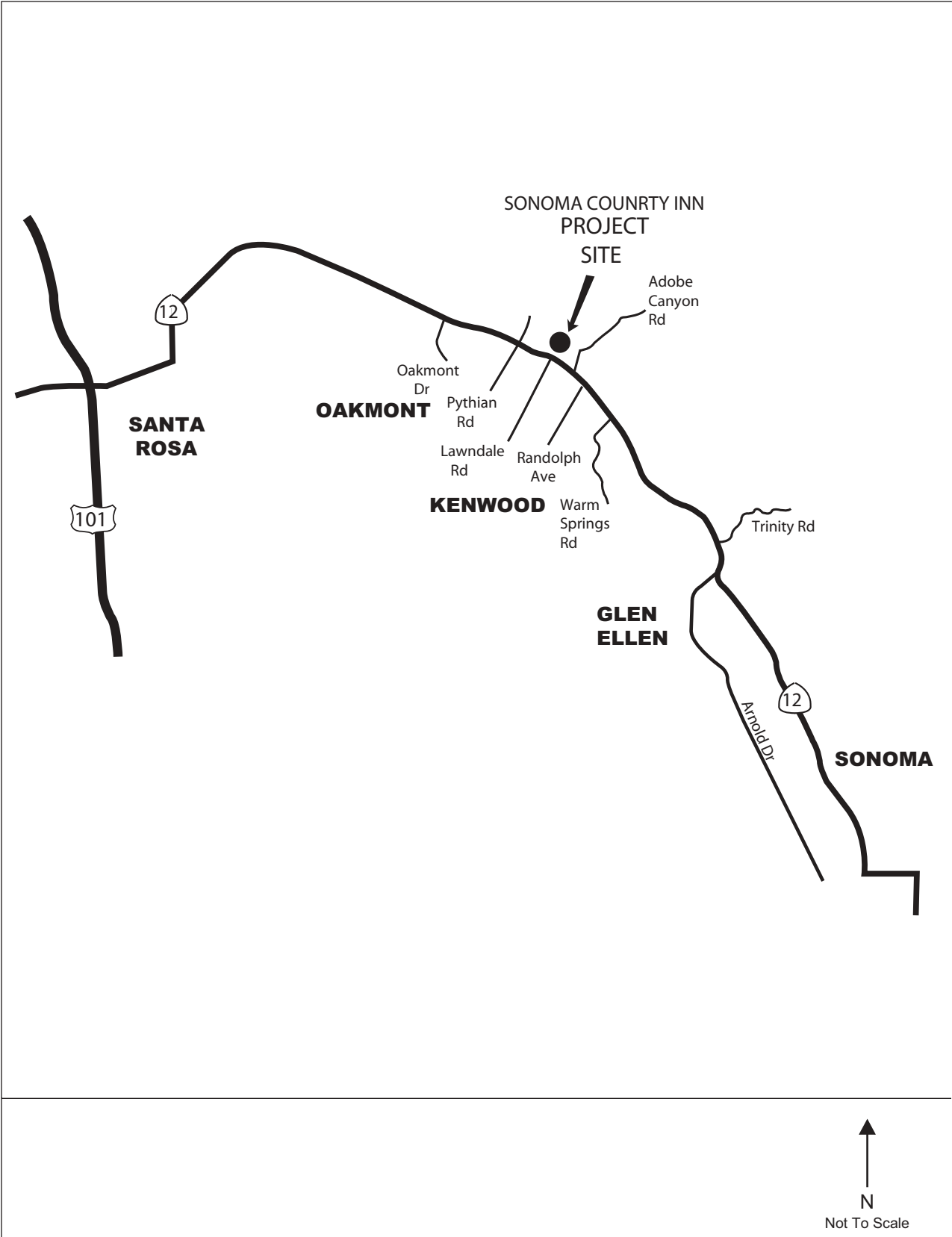
Roadways

State Route 12 (SR 12) is a two-lane arterial roadway in the project vicinity. It extends westerly (and northerly) of the project site to the cities of Santa Rosa and Sebastopol as well as to the U.S. 101 freeway, and to the east of the project site to the City of Sonoma and Napa County. SR 12 has signalized intersections with Oakmont Drive and Pythian Road west of the project site. To the east, SR 12 is not signal controlled until near the City of Sonoma. Left turn lanes are provided on the approaches to most major intersections and on the approaches to some driveways. Paved shoulder width varies along SR 12 from less than one foot to over eight feet. The posted speed limit at the project site's existing driveway is 55 miles per hour (mph) although observed speeds ranged as high as 65 mph.

The project site's access road flares to 45 feet wide at its intersection with SR 12, then immediately narrows to ten feet wide north of SR 12 on the project site. No stop sign is provided on the access road approach to SR 12. The intersection is level, with sight lines unconstrained (over 750 feet in each direction). There is no eastbound left turn lane on SR 12 at the project site driveway. Existing geometrics and control at intersections evaluated in this study are shown in Exhibit 5.2-2.

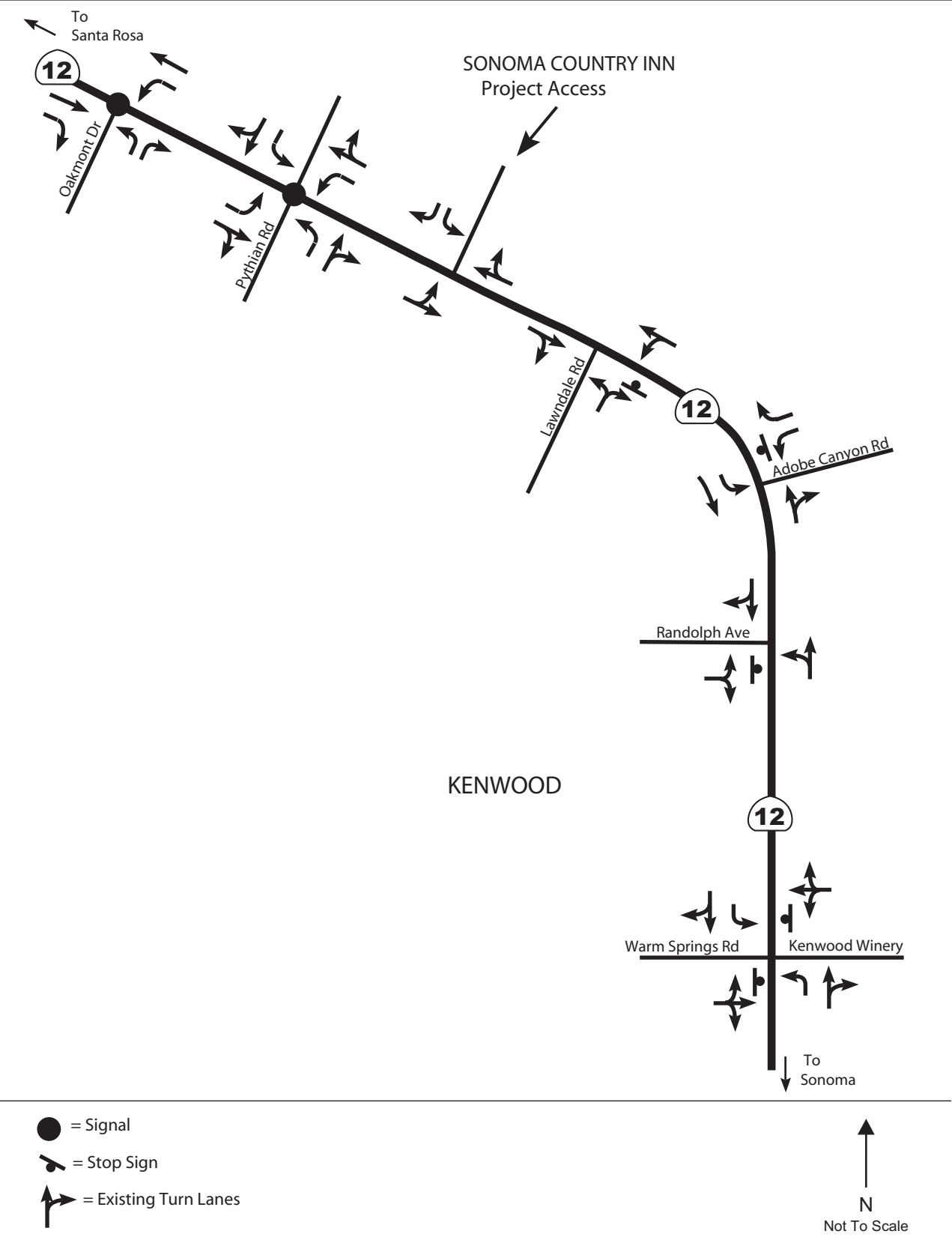
¹ For purposes of this traffic analysis, SR 12 is considered to be oriented east-west, while Oakmont Drive, Pythian Road, the project access driveway, Lawndale Road, Adobe Canyon Road, Randolph Avenue, and Warm Springs Road are considered to be oriented north-south.

**EXHIBIT 5.2-1
AREA MAP**



Source: Crane Transportation Group

**EXHIBIT 5.2-2
EXISTING INTERSECTION GEOMETRICS AND CONTROL**



Volumes

The following six roadway intersections plus the project access road intersection have been analyzed in this EIR:

- x State Route 12/Oakmont Drive
- x State Route 12/Pythian Road
- x State Route 12/project access road
- x State Route 12/Lawndale Road
- x State Route 12/Adobe Canyon Road
- x State Route 12/Randolph Avenue
- x State Route 12/Warm Springs Road

A system of year 2002 summertime Friday AM and PM peak hour and Sunday PM peak hour traffic counts were developed for the six SR 12 intersections and one project site access road intersection based upon the following sources of traffic volume data:

- x Traffic counts were conducted by Crane Transportation Group (EIR traffic analyst) at State Route 12 intersections with Warm Springs Road, Pythian Road, and Oakmont Drive in August and September 2000² on a Friday from 3:00 to 7:00 PM, on a Saturday from 10:00 AM to 6:30 PM, and on two Sundays from 10:00 AM to 6:30 PM. Sunday traffic volumes along SR 12 were found to be slightly higher than those counted on Saturday. For purposes of this EIR, the August and September 2000 traffic count data was factored to summer 2002 Friday conditions based upon average annual growth in traffic per available Caltrans traffic count data for State Route 12.
- x Crane Transportation Group conducted additional traffic counts in May 2002 as follows:
 - à Friday AM peak period (7:00 to 9:00 AM) traffic counts were conducted at the State Route 12 intersections with Warm Springs Road, Pythian Road, Oakmont Drive, Adobe Canyon Road, and Randolph Avenue in Kenwood. Friday PM peak period (3:30 to 6:30 PM) and Sunday peak period (11:30 AM to 6:30 PM) traffic counts were conducted at the SR 12 intersections with Adobe Canyon Road and Randolph Avenue. The peak hours were determined for each time period, and all data was factored to summer 2002 conditions based upon comparisons of historical spring versus summer Caltrans traffic count data for State Route 12.
 - à Weekday AM and PM peak period traffic counts of the State Route 12/Lawndale Road intersection conducted by the project applicant's traffic consultant (TJKM traffic engineers) in November 2000 were added to the system of count data for summer 2002 Friday conditions, adjusted as necessary.³

² Counts were conducted on August 12, 18, 27 and September 10, 2000 for the Chateau St Jean Winery Special Event Traffic Study by Crane Transportation Group.

³ This November 2000 count data was compared to Caltrans summer traffic count data for State Route 12 and was found to be almost as high as historical summertime volumes through this segment of SR 12.

Exhibits 5.2-3, 5.2-4, and 5.2-5 show summer 2002 Friday AM and PM peak commute and Sunday afternoon peak traffic volumes as follows:

Exhibit 5.2-3: Friday, 7:30 to 8:30 AM -- (Time of morning commute peak)

Exhibit 5.2-4: Friday, 5:00 to 6:00 PM -- (Time of evening commute peak and maximum inbound flow to a weekday evening special event)

Exhibit 5.2-5: Sunday, 3:30 to 4:30 PM -- (Time of weekend afternoon traffic flow peak and maximum outbound flow from a weekend special event)

INTERSECTION OPERATING CONDITIONS

Analysis Methodology

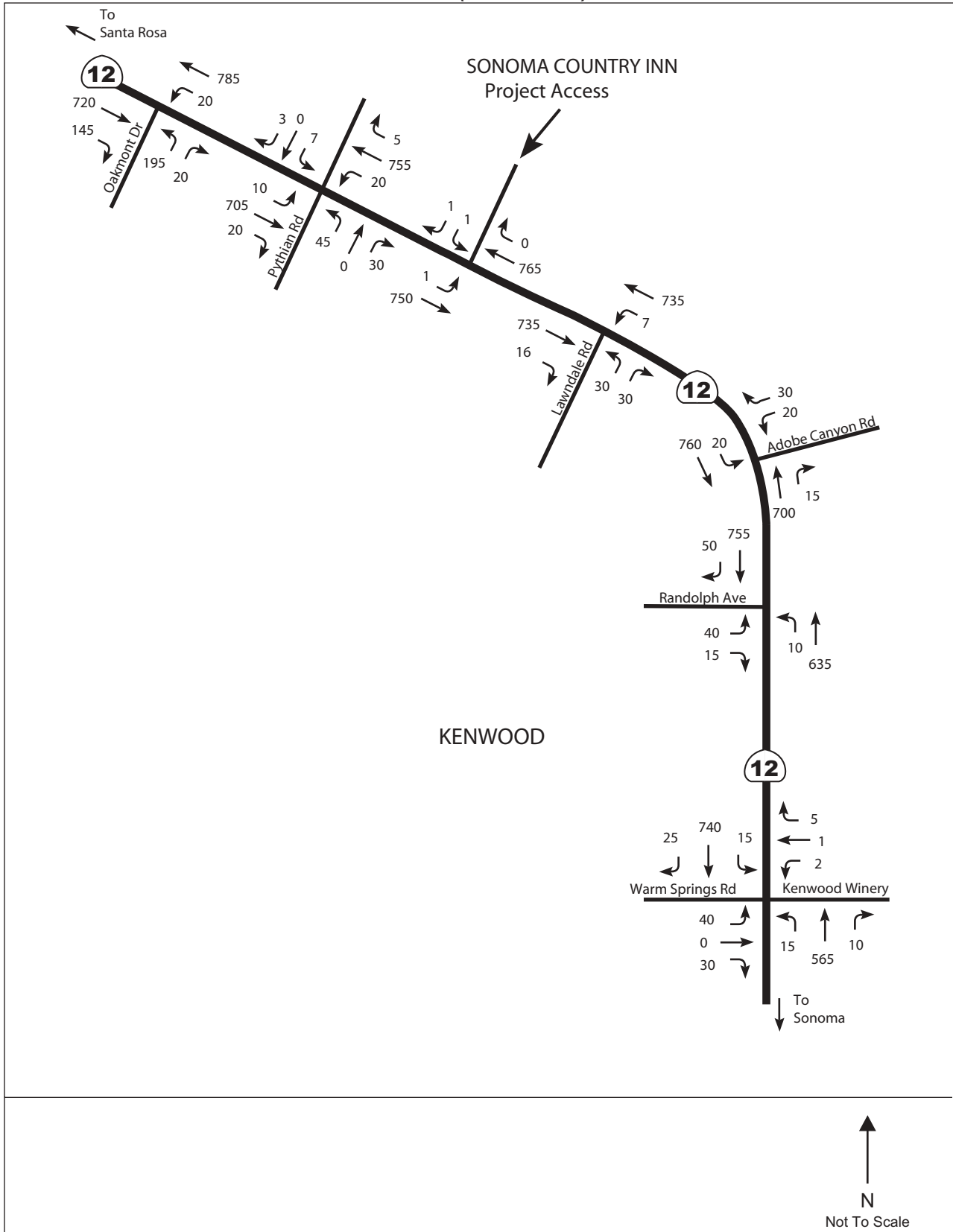
Signalized Intersections. Intersections, rather than roadway segments between intersections, are almost always the capacity controlling locations for any circulation system. Signalized intersection operation is graded based upon two different scales. The first scale employs a grading system called Level of Service (LOS) which ranges from Level A, indicating uncongested flow and minimum delay to drivers, down to Level F, indicating significant congestion and delay on most or all intersection approaches. The Level of Service scale is also associated with a control delay tabulation at each intersection.⁴ The control delay designation allows a more detailed examination of the impacts of a particular project. **Appendix 8.6** provides additional information about the LOS/control delay relationship.

Unsignalized Intersections. Unsignalized intersection operation is typically graded using the Level of Service A through F scale. LOS ratings for all-way stop intersections are determined using a methodology outlined in the year 2000 TRB *Highway Capacity Manual*. Under this methodology, all-way stop intersections receive one LOS designation reflecting operation of the entire intersection. Average control delay values are also calculated. Intersections at which side streets only are stop-sign-controlled (two-way stop control) are also evaluated using the LOS and average control delay scales using a methodology outlined in the year 2000 TRB *Highway Capacity Manual*. However, unlike signalized or all-way stop analysis where the LOS and control delay designations pertain to the entire intersection, in side street stop sign control analysis LOS and delay designations are computed for only the stop-sign-controlled approaches or individual turn and through movements. **Appendix 8.6** provides greater detail about unsignalized analysis methodologies.

Standards Sonoma County General Plan Objective CT- 2.1 states: “Reduce congestion on the countywide highway system by maintaining a “C” level of service or better on designated arterial and collector roadways unless a lower level of service is shown on Figures CT-2c and CT-2d on pages 289-291, a lower level of service is determined to be acceptable due to environmental or community values existing

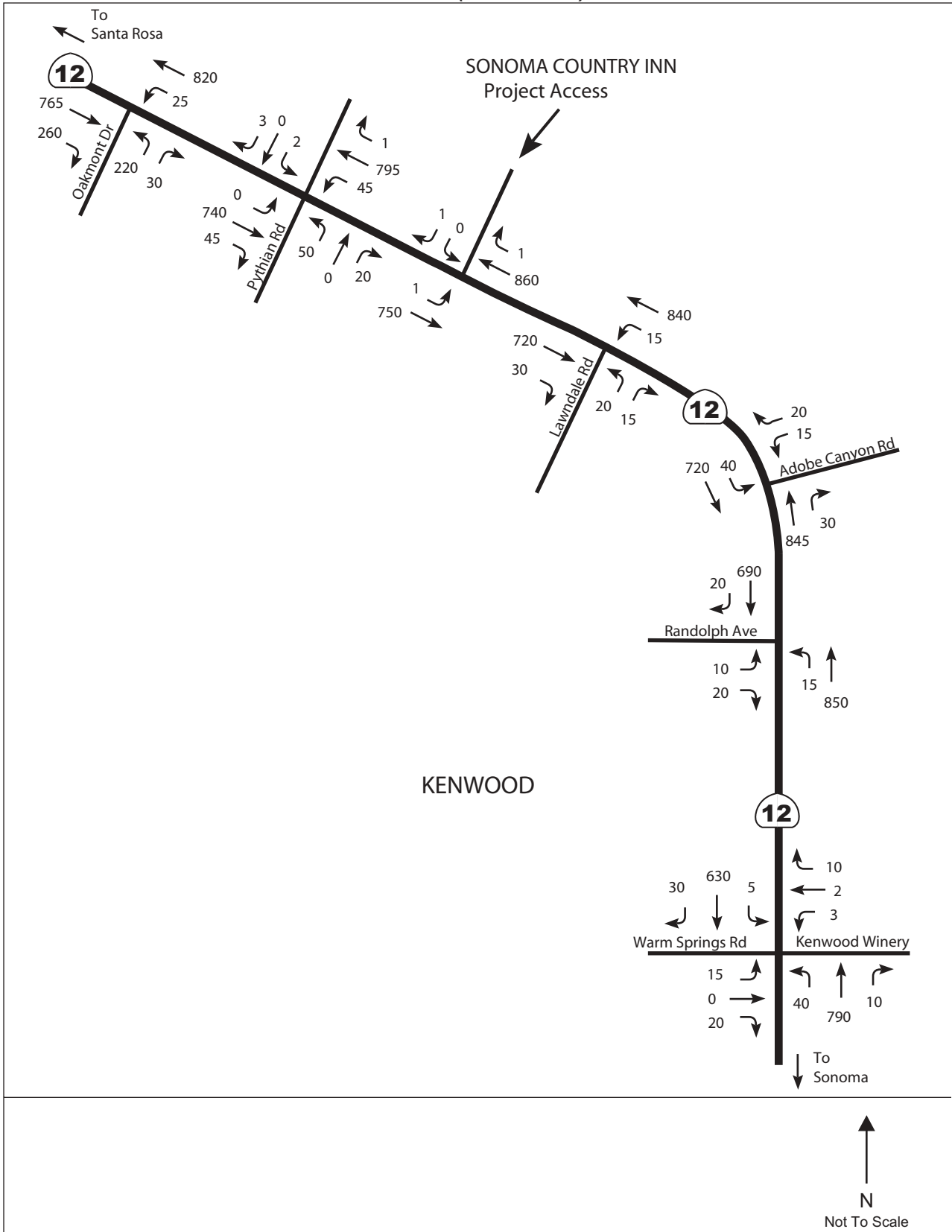
⁴ *Highway Capacity Manual (HCM), Year 2000 Update*, Transportation Research Board (TRB), operations method.

EXHIBIT 5.2-3
EXISTING VOLUMES - FRIDAY AM PEAK HOUR (7:30-8:30AM)



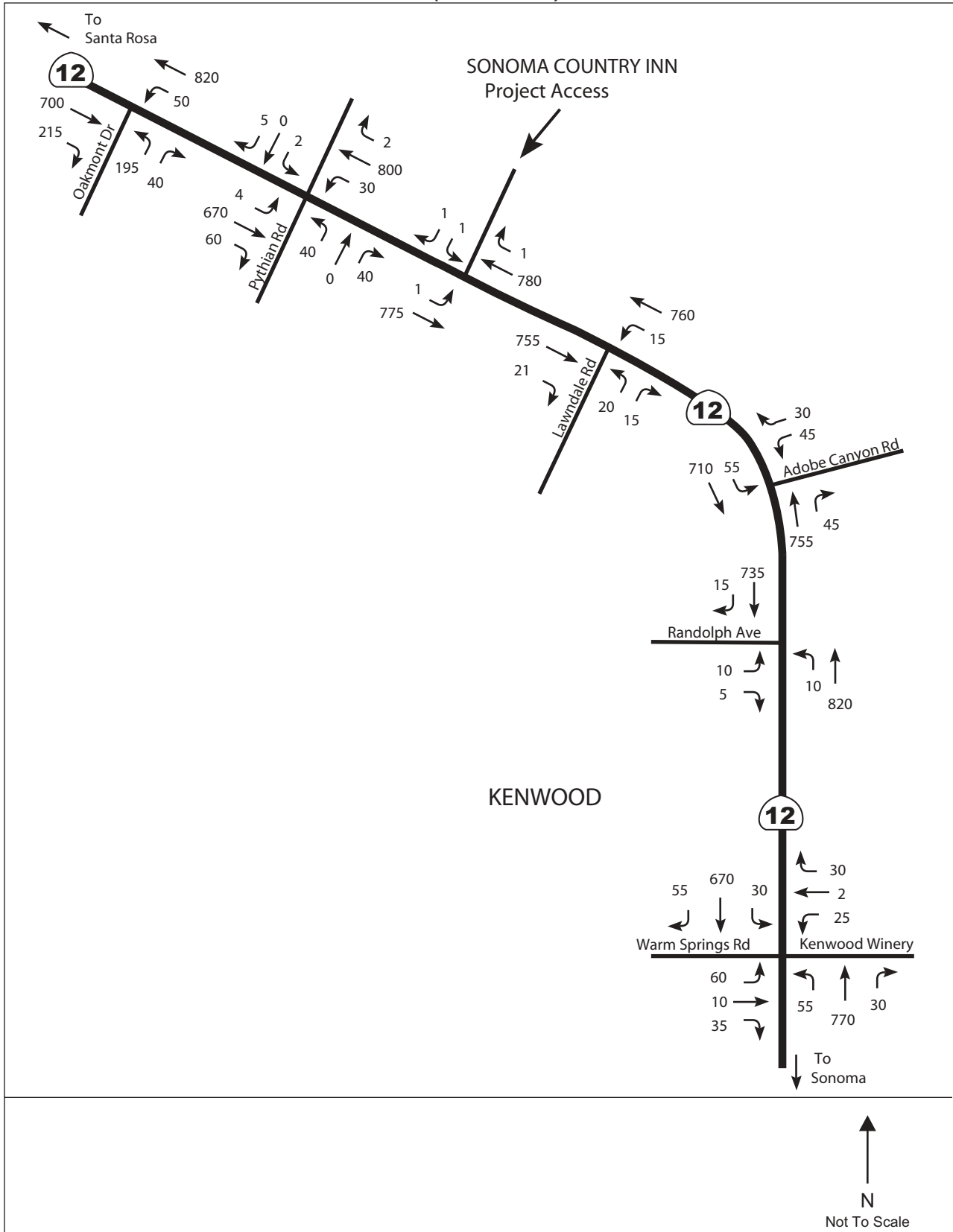
Source: Crane Transportation Group

EXHIBIT 5.2-4
EXISTING VOLUMES - FRIDAY PM PEAK HOUR (5:00-6:00PM)



Source: Crane Transportation Group

**EXHIBIT 5.2-5
EXISTING VOLUMES - SUNDAY PEAK HOUR (3:30-4:30PM)**



Source: Crane Transportation Group

in some portions of the County, or the project(s) which could cause the lower level of service has an overriding public benefit which outweighs the increased congestion that would result.

Existing (Summer 2002) Level of Service

Exhibits 5.2-6, 5.2-7, and 5.2-8 show summer 2002 Friday AM and PM peak commute and Sunday afternoon intersection levels of service as follows:

Exhibit 5.2-6: Friday, 7:30 to 8:30 AM -- (Time of morning commute peak)

Exhibit 5.2-7: Friday, 5:00 to 6:00 PM -- (Time of evening commute peak and maximum inbound flow to a weekday evening special event)

Exhibit 5.2-8: Sunday, 3:30 to 4:30 PM -- (Time of weekend afternoon traffic flow peak and maximum outbound flow from a weekend special event)

SR 12/Oakmont Drive

This signalized intersection operates at LOS B during all three analyzed peak hours.

SR 12/Pythian Road

This signalized intersection operates at LOS A during all three analyzed peak hours.

SR 12/Project Access Road (analyzed with stop sign control on the southbound project access road approach to SR 12)

Stop-sign-controlled left turns from the project access road to eastbound SR 12 operate at LOS E,⁵ while left turns from SR 12 to the project access road operates at LOS A or B during all three analyzed peak hours.

SR 12/Lawndale Road

The stop-sign-controlled Lawndale Road northbound approach to SR 12 operates at LOS E, while eastbound left turns from SR 12 to Lawndale Road operates at LOS A or B during all three analyzed peak hours.

SR 12/Adobe Canyon Road

Stop-sign-controlled left turns from Adobe Canyon Road to eastbound SR 12 operate at LOS E during the Friday AM peak hour and at LOS F during the Friday PM and Sunday PM peak hours. Left turns from eastbound SR 12 to Adobe Canyon Road operates at LOS A or B during all three analyzed peak hours.

⁵ Volume data show no project access driveway westbound left turn movements to SR 12 during Friday PM peak hour, thus level of service evaluation for this turning movement is not applicable for the Friday PM peak hour.

**EXHIBIT 5.2-6
INTERSECTION LEVEL OF SERVICE FRIDAY 7:30 – 8:30 AM**

Intersection	Existing (Summer 2002)	Year 2005		Year 2012	
		Base Case	Base Case + Project (w/o Special Events)	Base Case	Base Case + Project (w/o Special Events)
SR 12 / Oakmont Dr.	B-11.9 ^a	B-13.5	B-13.9	B-17.4	B-18.0
SR 12 / Pythian Rd.	A-5.3 ^a	A-5.8	A-5.9	A-6.8	A-7.0
SR 12 / Project Access	E-39.9/A-9.6 ^b	E-44.7/A-9.8	F-53.6/A-10.0	F-58.2/B-10.2	F-72.4/B-10.4
SR 12 / Lawndale Road	E-40.0/A-9.5 ^c	E-49.0/A-9.7	F-51.3/A-9.7	F-84.3/B-10.1	F-89.0/B-10.1
SR 12 / Adobe Canyon Rd	E-48.8/A-9.5 ^d	F-58.3/A-9.7	F-60.6/A-9.7	F-94.1/B-10.1	F-98.3/B-10.2
SR 12 / Randolph Avenue	E-47.7/A-9.7 ^e	F-65.5/A-10.0	F-71.4/A-10.0	F-127.3/B-10.5	F-142/B-10.5
SR 12 / Warm Springs Rd. / Kenwood Winery	D-25.7/F-63.6 A-8.9/A-9.7 ^f	A-5.2 ^a	A-5.2	A-5.8	A-5.8

^a Signalized level of service– control delay (in seconds).

^b Side street stop sign controlled level of service–average control delay (in seconds). Project Access driveway southbound left turn to SR 12/SR 12 eastbound left turn to Project Access driveway.

^c Side street stop sign controlled level of service–average control delay (in seconds). Lawndale Road northbound approach to SR12/ SR 12 westbound left turn to Lawndale Road.

^d Side street stop sign controlled level of service–average control delay (in seconds). SR 12 eastbound left turn to Adobe Canyon Road/ Adobe Canyon Road southbound left turn to SR 12

^e Side street stop sign controlled level of service–average control delay (in seconds). SR 12 westbound approach to Randolph Avenue/ Randolph Avenue northbound left turn to SR 12.

^f Side street stop sign controlled level of service–average control delay (in seconds). Warm Springs Road northbound approach to SR 12/Kenwood Winery southbound approach to SR 12/SR 12 westbound left turn to Warm Springs Road/SR 12 eastbound left turn to Kenwood Winery.

Sources: Year 2000 Highway Capacity Manual Operations Methodology & Crane Transportation Group

**EXHIBIT 5.2-7
INTERSECTION LEVEL OF SERVICE FRIDAY 5:00 – 6:00 PM**

Intersection	Existing (Summer 2002)	Year 2005		Year 2012	
		Base Case	Base Case + Project (w/o special events)	Base Case	Base Case + Project (w/o Special Events)
SR 12/Oakmont Dr.	B-13.7 ^a	B-15.4	B-16.1	C-22.1	C-23.6
SR 12/Pythian Rd.	A-5.7 ^a	A-6.3	A-6.4	A-7.6	A-7.8
SR 12/Project Access	NA ^g /B-10.0 ^b	E-45.3/B-10.2	F-66.1/B-10.4	F-69.8/B-10.8	F- 94.7/B-11.0
SR 12/Lawndale Road	E-42.9/A-9.5 ^c	F-52.2/A-9.7	F-54.6/B-10.0	F-85.5/B-10.2	F-90.1/B-10.3
SR 12/Adobe Canyon Rd	F-62.0/B-10.4 ^d	F-76.0/B-10.7	F-79.4/B-10.8	F-123.6/B-11.5	F-133/B-11.6
SR 12/Randolph Avenue	D-27.8/A-9.3 ^e	D-31.9/A-9.5	D-34.2/A-9.6	E-42.6/A-9.9	E-46.2/A-9.9
SR 12/Warm Springs Rd./ Kenwood Winery	D-31.3/E-44.9/ A-9.8/A-9.4 ^f	A-5.6 ^a	A-5.6	A-6.8	A-6.9

^a Signalized level of service– control delay (in seconds).

^b Side street stop sign controlled level of service–average control delay (in seconds). Project Access driveway southbound left turn to SR 12/SR 12 eastbound left turn to Project Access driveway.

^c Side street stop sign controlled level of service–average control delay (in seconds). Lawndale Road northbound approach to SR12/ SR 12 westbound left turn to Lawndale Road.

^d Side street stop sign controlled level of service–average control delay (in seconds). SR 12 eastbound left turn to Adobe Canyon Road/ Adobe Canyon Road southbound left turn to SR 12

^e Side street stop sign controlled level of service–average control delay (in seconds). SR 12 westbound approach to Randolph Avenue/ Randolph Avenue northbound left turn to SR 12.

^f Side street stop sign controlled level of service–average control delay (in seconds). Warm Springs Road northbound approach to SR 12/Kenwood Winery southbound approach to SR 12/SR 12 westbound left turn to Warm Springs Road/SR 12 eastbound left turn to Kenwood Winery.

^g NA = Not applicable, no left turns.

Sources: Year 2000 Highway Capacity Manual Operations Methodology & Crane Transportation Group

EXHIBIT 5.2-8
INTERSECTION LEVEL OF SERVICE SUNDAY 3:30 – 4:30 PM

<i>Intersection</i>	<i>Existing (Summer 2002)</i>	<i>Year 2005</i>		<i>Year 2012</i>	
		<i>Base Case</i>	<i>Base Case + Project (w/o Special Events)</i>	<i>Base case</i>	<i>Base Case + Project (w/o Special Events)</i>
SR 12/Oakmont Dr.	B-12.8 ^a	B-14.3	B-14.7	B-19.2	C-20.0
SR 12/Pythian Rd.	A-5.7 ^a	A-6.3	A-6.4	A-8.2	A-8.5
SR 12/Project Access	E-42.2/A-9.6 ^b	E-48.4/A-9.8	F-62.4/B-10.0	F-62.7/B-10.3	F-89.0/B-10.5
SR 12/Lawndale Road	E-40.0/A-9.6 ^c	F-48.1/B-10.1	F-50.0/B-10.2	F-75.3/B-10.3	F-79.2/B-10.3
SR 12/Adobe Canyon Rd.	F-92.4/B-10.1 ^d	F-128.6/B-10.4	F-137/B-10.5	F-276/B-11.1	F-294/B-11.1
SR 12/Randolph Avenue	D-38.4/A-9.5 ^e	E-45.0/A-9.7	E-47.8/A-9.7	F-62.4/B-10.1	F-67.0/B-10.2
SR 12/Warm Springs Rd./ Kenwood Winery	F-145/E-47.5/ A-9.9/A-9.7 ^f	B-11.8 ^a	B-12.0	B-14.8	B-15.0

^a Signalized level of service– control delay (in seconds).

^b Side street stop sign controlled level of service–average control delay (in seconds). Project Access driveway southbound left turn to SR 12/SR 12 eastbound left turn to Project Access driveway.

^c Side street stop sign controlled level of service–average control delay (in seconds). Lawndale Road northbound approach to SR12/ SR 12 westbound left turn to Lawndale Road.

^d Side street stop sign controlled level of service–average control delay (in seconds). SR 12 eastbound left turn to Adobe Canyon Road/ Adobe Canyon Road southbound left turn to SR 12

^e Side street stop sign controlled level of service–average control delay (in seconds). SR 12 westbound approach to Randolph Avenue/ Randolph Avenue northbound left turn to SR 12.

^f Side street stop sign controlled level of service–average control delay (in seconds). Warm Springs Road northbound approach to SR 12/Kenwood Winery southbound approach to SR 12/SR 12 westbound left turn to Warm Springs Road/SR 12 eastbound left turn to Kenwood Winery.

Sources: Year 2000 Highway Capacity Manual Operations Methodology & Crane Transportation Group

SR 12/Randolph Avenue

The stop-sign-controlled Randolph Avenue eastbound approach to SR 12 operate at LOS E during the Friday AM peak hour and at LOS D during the Friday PM and Sunday PM peak hours. Left turns from westbound SR 12 to Randolph Avenue operates at LOS A conditions during all three analyzed peak hours.

SR 12/Warm Springs Road

The stop-sign-controlled Warm Springs Road approach to SR 12 operates at LOS F during the Friday AM peak hour, and at LOS E during the Friday PM and Sunday PM peak hours.

INTERSECTION SIGNALIZATION NEEDS

Traffic signals are used to provide an orderly flow of traffic through an intersection. Many times they are needed to offer side street traffic an opportunity to access a major road where high volumes and/or high vehicle speeds block crossing or turn movements. However, signals do not increase the capacity of an intersection (increase the overall intersection's ability to accommodate additional vehicles) and, in fact, often slightly reduce the number of total vehicles that can pass through an intersection in a given period of time. Signals can also cause an increase in traffic accidents if installed at inappropriate locations.

There are 11 possible tests for determining whether a traffic signal should be considered for installation. These tests, called "warrants", consider criteria such as actual traffic volume, pedestrian volume, presence of school children, and accident history. Two or more warrants usually must be met before a signal is installed. This EIR has applied the test for Peak Hour Volumes (Warrant #11). When Warrant #11 is met there is a strong indication that a detailed signal warrant analysis covering all possible warrants is appropriate. These rigorous analyses are described in Chapter 9 of the Caltrans Traffic Manual while Warrant #11 is presented in *Appendix 8.6*.

Warrant #11 "Rural" criteria are applied to intersections with communities with less than 10,000 residents or for intersections where travel speeds on the uncontrolled intersection approaches are 40 miles per hour or greater. All unsignalized intersections evaluated in this EIR have been analyzed using "Rural" criteria.

Standards

Sonoma County uses Caltrans signal warrant criteria. Therefore, these criteria have been applied to the intersections along SR 12.

Summer 2002 traffic volumes at the SR 12/Warm Springs Road intersection would exceed warrant criteria levels during the Sunday PM peak hour, and be just below warrant criteria levels during the Friday AM peak hour. Volumes would be well below warrant criteria levels during the Friday PM peak hour. Other unsignalized intersections along SR 12, such as Lawndale Road, Adobe Canyon Road and Randolph Avenue do not approach meeting signal warrant criteria levels during any of the three analyzed peak hours.

PLANNED IMPROVEMENTS

Caltrans and Sonoma County are planning to signalize the SR-12/Warm Springs Road intersection.⁶ Based upon the cooperative agreement between the two jurisdictions, the earliest the signal would be in operation is by the beginning of 2004.

MEASURES RECOMMENDED TO IMPROVE INTERSECTION OPERATING CONDITIONS

In addition to the proposed SR 12/Warm Springs Road signalization, the following measure is recommended by the EIR Traffic Engineer to improve existing intersection operating conditions. Improvements would be the responsibility of the County to implement, in consultation with Caltrans, with fees paid by all new developments contributing traffic to these intersections. Fees would be pro-rated as fair share contributions among all approved development projects.

- x Provide a two-lane northbound Lawndale Road approach to SR 12 and a two-lane northbound Randolph Avenue approach to SR 12. This would require widening and restriping the Lawndale Road and Randolph Avenue northbound intersection approaches to provide separate right and left turn lanes. Even with this improvement the northbound left turn movement at each intersection would continue to operate unacceptably (at LOS F), but average control delay for northbound right turns would be improved.

ROADWAY OPERATING CONDITIONS

Analysis Methodology

Operation of a two-lane highway, such as SR 12, is graded based upon the level of service scale, with level of service (LOS) A indicating free flow conditions and the ability to pass slower traffic, down to LOS F indicating significant congestion and speeds below 45 miles per hour. Level of service is also related to average travel speed. The level of service methodology used in this EIR to evaluate two-lane highways is the current engineering profession standard⁷ and takes into account total volume; the directional split of traffic; the percent trucks, buses and RV's; terrain; the percent no passing zones; lane and shoulder widths; and number of intersecting driveways. *Appendix 8.6* provides greater detail about two-lane highway operating conditions.

Standards

It is Sonoma County's objective to "reduce congestion on the countywide highway system by maintaining a "C" level of service or better on designated arterial and collector roadways" unless a lower level of service is established for the roadway (shown on General Plan Figures CT-2c and CT-2d) or "is determined to be acceptable due to environmental or community values existing in some portions of the

⁶ In January 2003 the project was approved for construction. Crane Transportation Group conversation with Mr. Henry Ma, Caltrans District 4, April, 2003.

⁷ *Highway Capacity Manual (HCM), Year 2000 Update*, Transportation Research Board (TRB).

County, or the project which would cause the lower level of service has an overriding public benefit which outweighs the increased congestion that would result.”⁸

The Sonoma County Transportation Authority’s (SCTA) 1991 Congestion Management Plan (CMP) requires that “In no case shall LOS standards established be below level of service E or the current level, whichever is farthest from the level of service A.”⁹ Level of service E was adopted as the County’s minimum standard for the 1991 *Sonoma County Congestion Management Program*. For the 1993 update of the CMP, the SCTA adopted a flexible approach to LOS standards. The intent of this approach is to create a system that warns jurisdictions of segments that may be approaching an unacceptable level of service in advance of its occurrence. This “early warning system” allows a jurisdiction more time to determine the appropriate solution to relieve congestion. The SCTA requires a formal response from responsible jurisdictions when a roadway segment level of service drops to LOS E, and a deficiency plan must be prepared when a roadway segment level of service drops to LOS F.¹⁰ Correspondence in April, 2001 from Caltrans indicates that the District reviewed the 1995 Sonoma County Congestion Management Program update and recommends “close monitoring of the gradual traffic impacts of local development projects, as mentioned in the “flexible approach to LOS standards” in Sonoma County Transportation Authority’s 1993 [1995] update to the CMP. That said, we have no further comments at this time.”¹¹

The Initial Study prepared for this project states that although State Route 12 is not designated in the General Plan for a level of service lower than LOS C, existing conditions in the area of the project are at LOS E, and it “appears unlikely that this area could obtain the General Plan established LOS C without the project.”¹² The Initial Study concludes that “it may appear more realistic to assume, as the CMP previously assumed, that LOS E is the established level of service, and that neither the project nor cumulative plus project traffic volumes should increase above LOS E.”¹³

Summer 2002 Conditions - Roadway Level of Service

Seven segments of SR 12 have been evaluated for summer 2002 operation during the three analyzed peak hours. They are:

SR 12 just west of Oakmont Drive.

SR 12 Oakmont Drive to Pythian Road

⁸ *Sonoma County General Plan Circulation and Transit Element*, 1987, with updates to 1992, Objective CT-2.1. State Route 12 is not shown to have a lower level of service on General Plan Figures CT-2c and CT-2d.

⁹ *Sonoma County Congestion Management Program*, Sonoma County Transportation Authority, 1991.

¹⁰ *Sonoma County Congestion Management Program*, Sonoma County Transportation Authority, 1995 Update, page 32.

¹¹ Letter to Denise Peter, Sonoma County PRMD, from Jean Finney, District Branch Chief, representing Harry Y. Yahata, District Director, Department of Transportation (Caltrans), April 25, 2001.

¹² *Environmental Checklist Form Sonoma Country Inn*, Country of Sonoma, April 26, 2002.

¹³ *Ibid.*

- SR 12 Pythian Road to project access road
- SR 12 Lawndale Road to Adobe Canyon Road
- SR 12 Adobe Canyon Road to Randolph Avenue
- SR 12 Randolph Avenue to Warm Springs Road
- SR 12 just east of Warm Springs Road

Exhibits 5.2-9, 5.2-10, and 5.2-11 show summer 2002 Friday AM and PM peak commute and Sunday afternoon intersection levels of service for the seven segments of SR 12 as follows:

Exhibit 5.2-9: Friday, 7:30 to 8:30 AM -- (Time of morning commute peak)

Exhibit 5.2-10: Friday, 5:00 to 6:00 PM -- (Time of evening commute peak and maximum inbound flow to a weekday evening special event)

Exhibit 5.2-11: Sunday, 3:30 to 4:30 PM -- (Time of weekend afternoon traffic flow peak and maximum outbound flow from a weekend special event)

Exhibits 5.2-9, 5.2-10, and 5.2-11 show that all analyzed segments of SR 12 operate at LOS E conditions during all three analyzed peak hours.

Measures Recommended to Improve Existing Roadway Operating Conditions

The following measures are recommended by the EIR Traffic Engineer to improve or maintain existing roadway operating conditions. Improvements would be the responsibility of the County to implement, in consultation with Caltrans, with fees paid by all new developments contributing traffic to these intersections. Fees would be pro-rated as fair share contributions among all approved development projects.

To improve and/or maintain the SR 12 LOS E condition during the peak traffic hours analyzed, roadway capacity improvements could be provided, as follows:

- x Widen shoulders wherever they are less than eight feet wide; widen the highway to provide continuous turn lanes wherever needed; and provide improvements such as turn lanes at major intersections.

SR 12 capacity could be substantially improved by expanding the highway to four lanes (two lanes in each direction) with left turn lanes provided at major roadway and driveway intersections. However, as stated in the Initial Study for this project, “the citizens of Sonoma Valley have continuously strongly opposed construction of ...modifications to the highway that would affect the rural, scenic character of the valley. Therefore, improvements to Sonoma Highway [SR 12] are primarily based on [moderate improvements to accommodate] traffic flow, while keeping rural densities low.”¹⁴

¹⁴ *Ibid.*

EXHIBIT 5.2-9
ROADWAY LEVEL OF SERVICE FRIDAY 7:30 - 8:30 AM

SR 12 Intersection	Existing (Summer 2002)	Year 2005		Year 2012	
		Base Case	Base Case + Project (w/o Special Event)	Base Case	Base Case + Project (w/o Special Event)
Just west of Oakmont Dr.	E/39.2 ^a	E/38.2	E/37.9	E/36.4	E/36.2
Between Oakmont Drive and Pythian Road.	E/41.1 ^a	E/40.2	E/40.0	E/38.9	E/38.6
Between Pythian Road and Lawndale Road/Project Access	E/40.7 ^a	E/40.1	E/39.9	E/38.5	E/38.3
Between Lawndale Road/Project Access and Adobe Canyon Road	E/41.8 ^a	E/41.1	E/41.0	E/39.6	E/39.5
Between Adobe Canyon Road and Randolph Avenue	E/40.3 ^a	E/39.6	E/39.5	E/38.0	E/37.9
Between Randolph Avenue and Warm Springs Road/Kenwood Winery	E/40.7 ^a	E/40.0	E/39.9	E/38.7	E/38.6
Just east of Warm Springs Road /Kenwood Winery	E/40.2 ^a	E/39.6	E/39.4	E/38.3	E/38.2

^a Level of Service/Average Travel Speed

Methodology: Year 2000 Highway Capacity Manual Two/Lane Highway Analysis

Source: Crane Transportation Group

EXHIBIT 5.2-10
ROADWAY LEVEL OF SERVICE FRIDAY 5:00 – 6:00 PM

SR 12 Intersection	Existing (Summer 2002)	Year 2005		Year 2012	
		Base Case	Base Case + Project [Base Case + Project Average Size Special Event]	Base Case	Base Case + Project [Base Case + Project Average Size Special Event]
Just west of Oakmont Dr.	E/37.3 ^a	E/36.3	E/36.0 [E/35.9]	E/34.2	E/33.9 [E/33.8]
Between Oakmont Drive and Pythian Road	E/40.3 ^a	E/39.6	E/39.3 [E/39.1]	E/37.9	E/37.6 [E/37.4]
Between Pythian Road and Lawndale Road/Project Access	E/39.9 ^a	E/39.2	E/38.9 [E/38.7]	E/37.6	E/37.2 [E/37.1]
Between Lawndale Road/Project Access and Adobe Canyon Road	E/41.1 ^a	E/40.2	E/40.2 [E/40.2]	E/38.8	E/38.6 [E/38.6]
Between Adobe Canyon Road and Randolph Avenue	E/39.4 ^a	E/38.7	E/38.6 [E/38.5]	E/37.0	E/36.8 [E/36.7]
Between Randolph Avenue and Warm Springs Road/Kenwood Winery	E/39.5 ^a	E/38.8	E/38.6 [E/38.6]	E/37.3	E/37.1 [E/37.0]
Just east of Warm Springs Road /Kenwood Winery	E/39.2 ^a	E/38.5	E/38.4 [E/38.4]	E/37.1	E/37.0 [E/36.9]

^a Level of Service/Average Travel Speed

Methodology: Year 2000 Highway Capacity Manual Two/Lane Highway Analysis

Source: Crane Transportation Group

EXHIBIT 5.2-11

ROADWAY LEVEL OF SERVICE SUNDAY 3:30 – 4:30 PM

SR 12 Intersection	Existing (Summer 2002)	Year 2005			Year 2012		
		Base Case	Base Case + Project [Base Case + Project Average Size Special Event]	Base Case + Average Size Special Event at All Wineries	Base Case	Base Case + Project [Base Case + Project Average Size Special Event]	Base Case + Average Size Special Event at All Wineries
Just west of Oakmont Dr.	E/38.6 ^a	E/37.6	E/37.4 [E/37.2]	E/35.4	E/35.6	E/35.3 [E/35.2]	E/33.5
Between Oakmont Drive and Pythian Rd	E/40.7 ^a	E/39.9	E/39.6 [E/39.5]	E/37.7	E/38.3	E/38.0 [E/37.9]	E/36.1
Between Pythian Road and Lawndale Road/Project Access	E/40.4 ^a	E/39.8	E/39.5 [E/39.3]	E/38.1	E/38.2	E/37.9 [E/37.8]	E/36.5
Between Lawndale Road/Project Access and Adobe Canyon Rd	E/41.5 ^a	E/40.9	E/40.9 [E/40.9]	E/39.4	E/39.3	E/39.1 [E/39.1]	E/37.9
Between Adobe Canyon Road & Randolph Avenue	E/39.9 ^a	E/39.2	E/39.1 [E/39.0]	E/37.9	E/37.7	E/37.5 [E/37.5]	E/36.3
Between Randolph Avenue and Warm Springs Road/Kenwood Winery	E/39.6 ^a	E/38.9	E/38.9 [E/38.9]	E/38.2	E/37.3	E/37.3 [E/37.1]	E/36.5
Just east of Warm Springs Road /Kenwood Winery	E/38.5 ^a	E/37.8	E/37.7 [E/37.6]	E/37.1	E/36.0	E/35.9 [E/35.8]	E/35.3

^a Level of Service/Average Travel Speed

Methodology: Year 2000 Highway Capacity Manual Two/Lane Highway Analysis

Source: Crane Transportation Group

EXISTING TRANSIT SERVICE

Sonoma Valley Transit Route #30 provides service along SR 12 between Santa Rosa and the City of Sonoma between the hours of 5:50 AM and 9:40 PM on weekdays, and 7:10 AM and 8:30 PM on weekends. Local Routes 32 and 34 also provide service between Santa Rosa and Sonoma. Route 32 operates Monday through Saturday from 8:00 AM to 5:20 PM, while Route 34 is an express service through Sonoma Valley serving the morning and evening weekday commute. The bus stop nearest the project site is located on SR12 at Randolph Avenue in Kenwood.

FUTURE CONDITIONS

Year 2005 and 2012 Base Case Operation

Traffic Volumes

Traffic impacts are evaluated for two scenarios – the year 2005 and 2012. Expected ambient (base case) year 2005 and 2012 traffic volumes for each horizon year for each of the three peak traffic hours were developed using recent historical growth rates for traffic along SR 12 between the north end of Sonoma Valley (near Glen Ellen) and Santa Rosa. Since various locations showed peak hour growth rates ranging from one percent up to three percent, a conservative three percent per year growth rate was selected for the near-term (2005) horizon year. This growth rate would include non-special event traffic from the proposed projects in the vicinity of the project site (Exhibit 5.2-12 lists the non-special event development along SR 12 in the vicinity of the project site from the cumulative projects)¹⁵ as well as regional growth in tourist traffic (primarily on weekends) and commute traffic (primarily on weekdays). A growth rate of 2.4 percent per year was projected from year 2002 to 2012. A reduced rate for the ten-year projection was considered appropriate because the three percent per year growth rate documented for some sections of SR 12 over the past ten years is high for other sections, and considered unlikely to be sustained throughout the study area over the 2002-2012 time period. Three additional single family residential units are proposed on the adjacent Graywood Ranch Subdivision (just north of the project site). These three units are assumed to be constructed and occupied by 2005, with access via the project access road.

¹⁵ See *Section 3.3 Cumulative Development Assumptions* for a complete list of cumulative projects.

**EXHIBIT 5.2-12
 PLANNED AND APPROVED PROJECTS**

Project	Size
Annadel Vineyards Partners	50,000 case/yr.- no retail
Mobius Painter Winery	150,000 case/yr - wine tasting and retail
Oakmont Planned Community	140 SF homes ^a
Graywood Ranch Subdivision	3 SF homes ^b
Landmark Winery	expand production
Chateau St. Jean	expand production
Las Ventanas	98-room resort &spa, 180-seat restaurant
Kenwood Winery	expand production
Kenwood Inn	expand by 24 rooms

^a SF = Single family units

^b These three homes would have access to SR 12 through the project site.

Source: County of Sonoma PMRD & Crane Transportation Group

Exhibits 5.2-13, 5.2-14, and 5.2-15 show 2005 base case (without project special event) traffic volumes as follows:

Exhibit 5.2-13: Friday, 7:30 to 8:30 AM

Exhibit 5.2-14: Friday, 5:00 to 6:00 PM

Exhibit 5.2-15: Sunday, 3:30 to 4:30 PM

Exhibits 5.2-16, 5.2-17, and 5.2-18 show 2012 base case (without project special event) traffic volumes as follow:

Exhibit 5.2-16: Friday, 7:30-8:30 AM

Exhibit 5.2- 17: Friday, 5:00-6:00 PM

Exhibit 5.2-18: Sunday, 3:30-4:30 PM

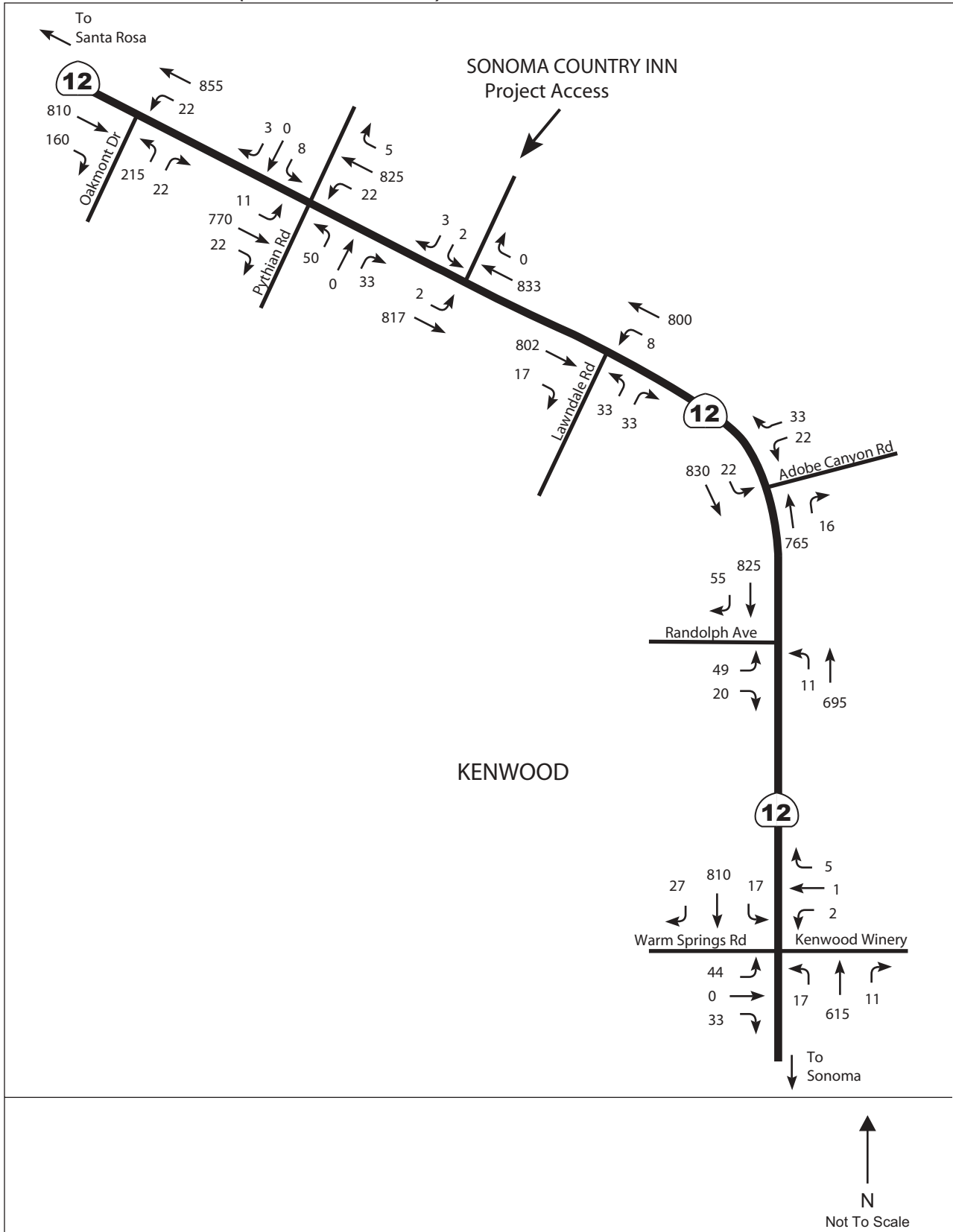
Base Case Intersection Operation

Year 2005

Exhibits 5.2-6, 5.2-7, and 5.2-8 show that the SR 12/Oakmont Drive and SR 12/Pythian Road signalized intersections would maintain LOS A or B operation by 2005 during all three analyzed peak hours.

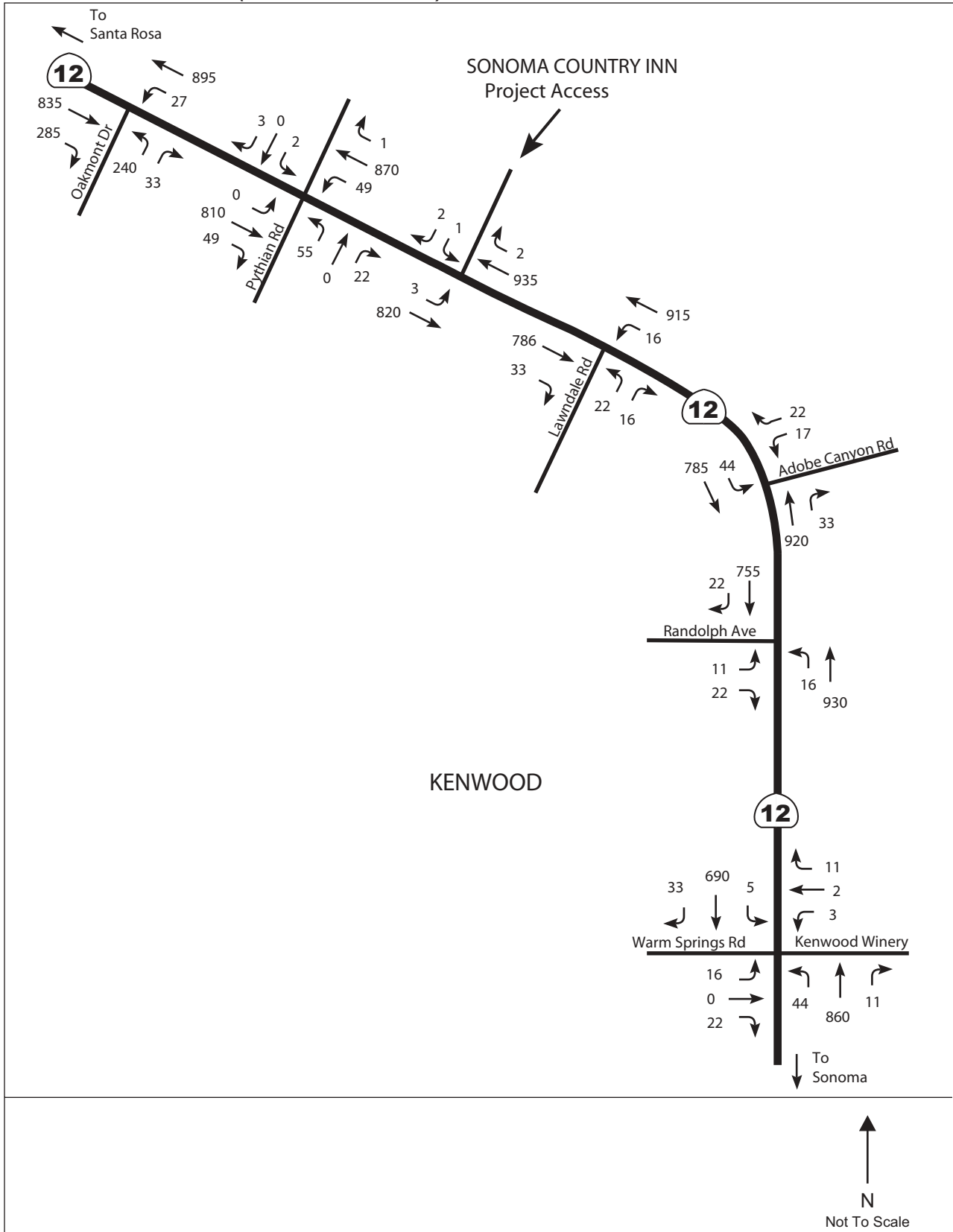
At the SR 12/Lawndale Road intersection the stop-sign-controlled Lawndale Road northbound approach to SR 12 would operate at LOS E during the Friday AM peak hour and LOS F during the Friday PM and

EXHIBIT 5.2-13
YEAR 2005 BASE CASE (WITHOUT PROJECT) VOLUMES - FRIDAY AM PEAK HOUR



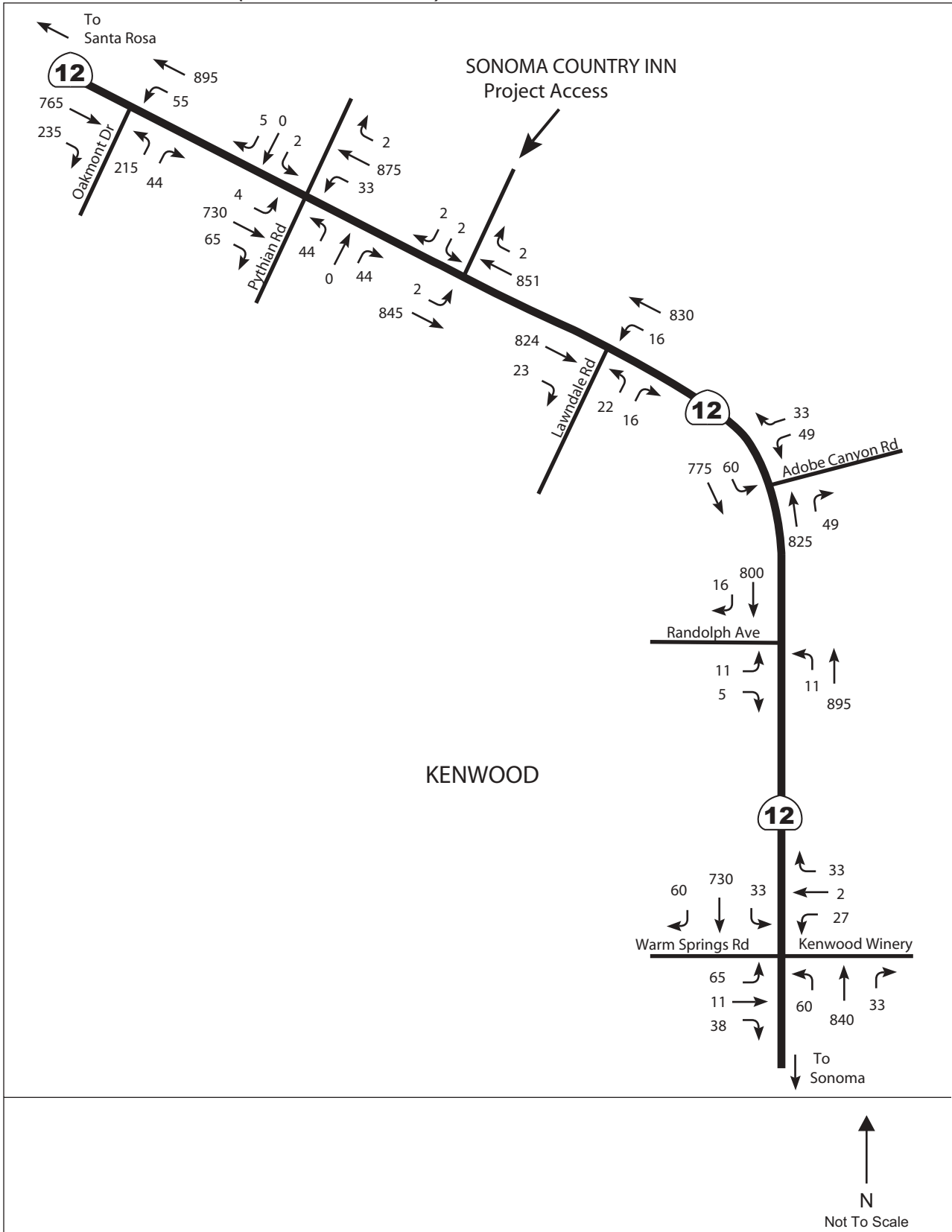
Source: Crane Transportation Group

EXHIBIT 5.2-14
YEAR 2005 BASE CASE (WITHOUT PROJECT) VOLUMES - FRIDAY PM PEAK HOUR



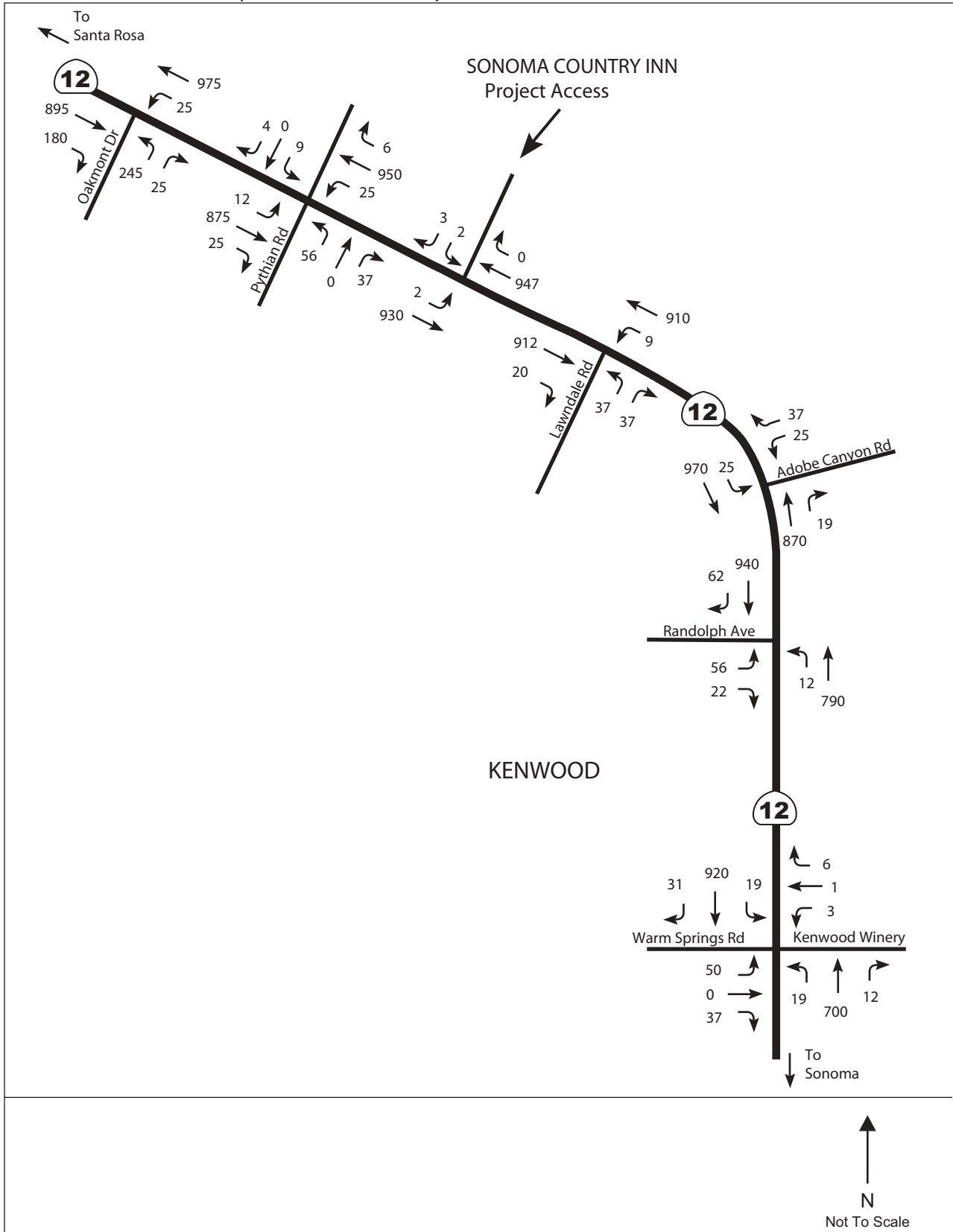
Source: Crane Transportation Group

EXHIBIT 5.2-15
YEAR 2005 BASE CASE (WITHOUT PROJECT) VOLUMES - SUNDAY AFTERNOON PEAK HOUR



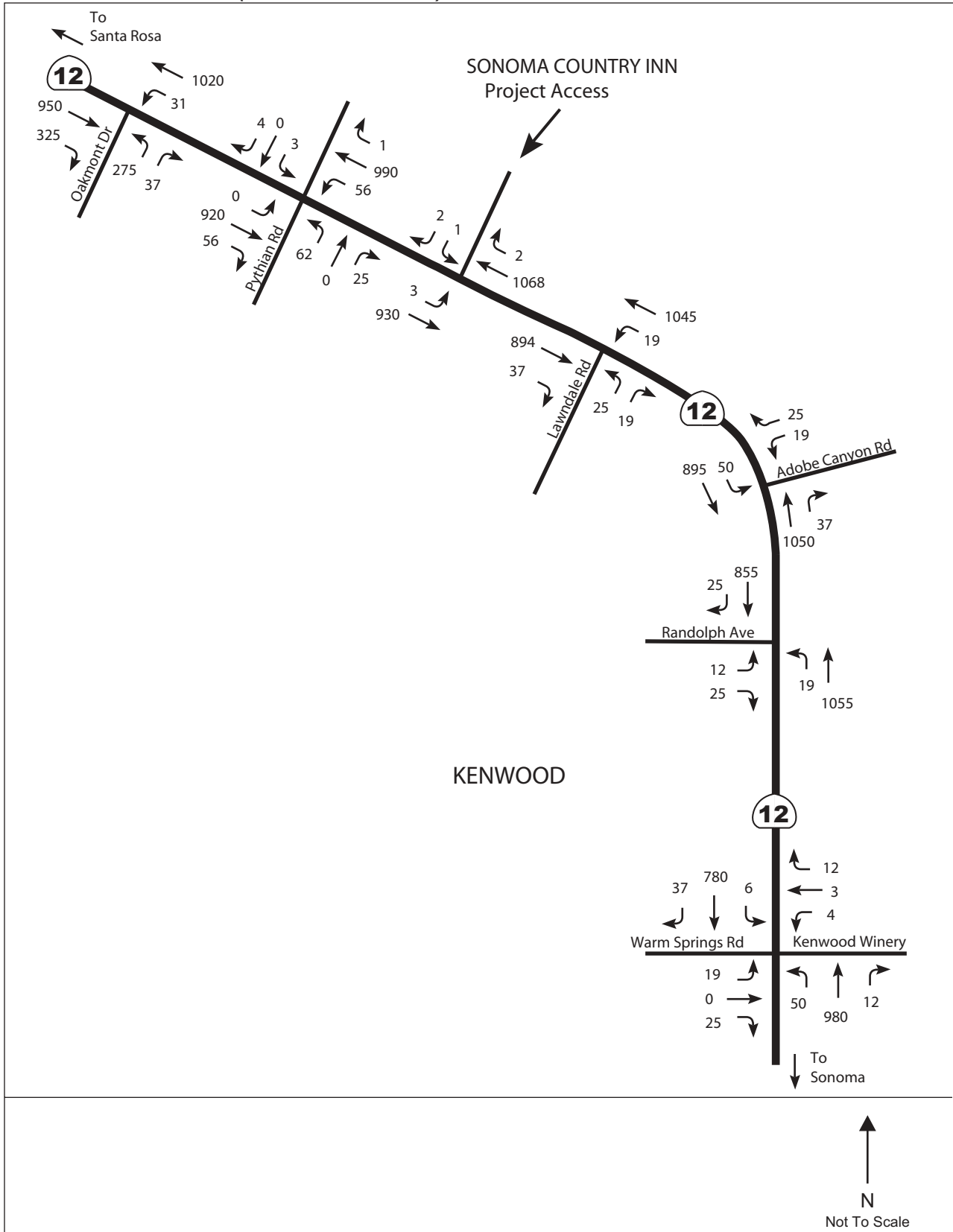
Source: Crane Transportation Group

EXHIBIT 5.2-16
YEAR 2012 BASE CASE (WITHOUT PROJECT) VOLUMES - FRIDAY AM PEAK HOUR



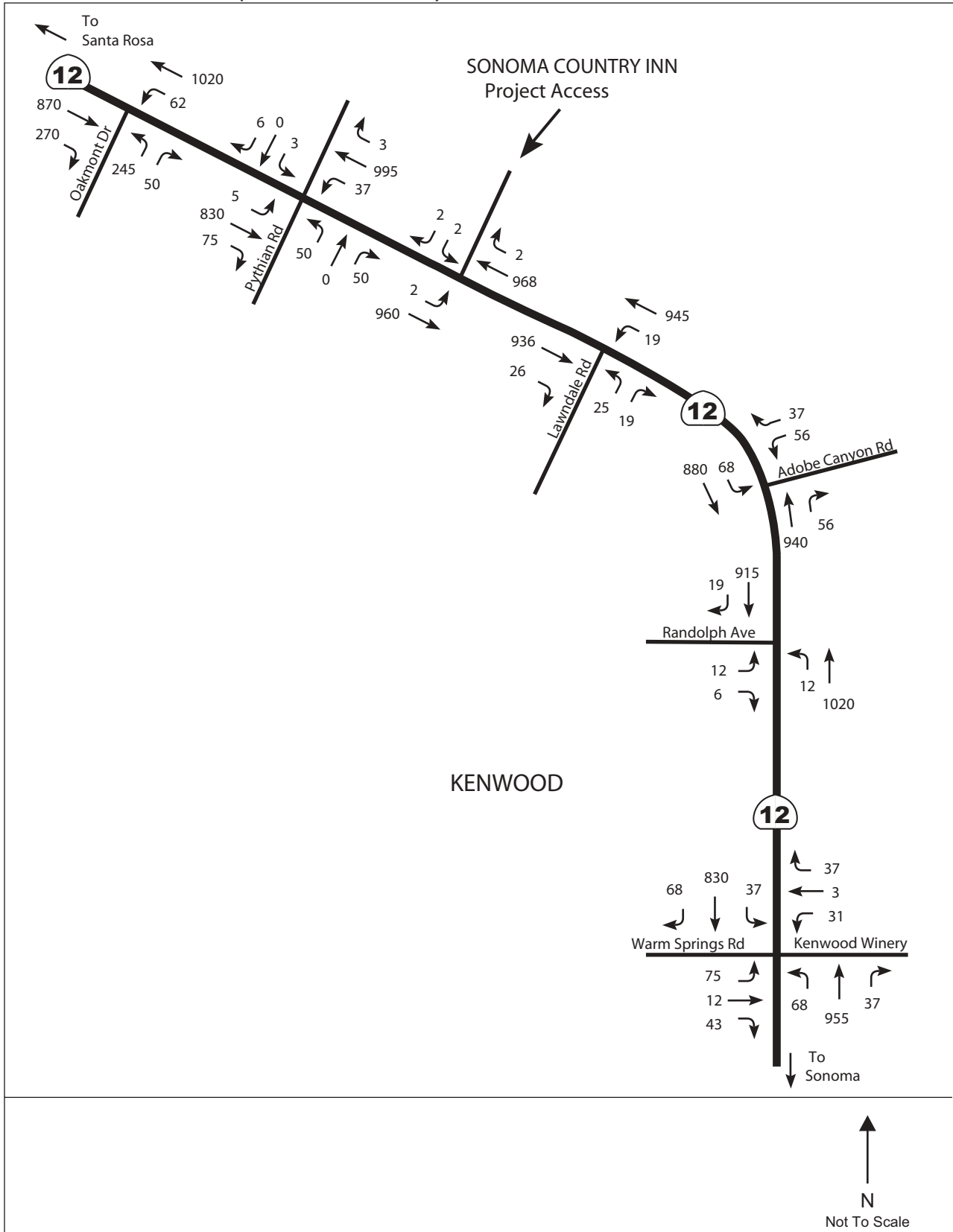
Source: Crane Transportation Group

EXHIBIT 5.2-17
YEAR 2012 BASE CASE (WITHOUT PROJECT) VOLUMES - FRIDAY PM PEAK HOUR



Source: Crane Transportation Group

EXHIBIT 5.2-18
YEAR 2012 BASE CASE (WITHOUT PROJECT) VOLUMES - SUNDAY AFTERNOON PEAK HOUR



Source: Crane Transportation Group

Sunday peak hours. The SR 12 westbound left turn to Lawndale Road would operate at LOS A during the Friday peak hours and LOS B during the Sunday PM peak hour.

At the SR12/Adobe Canyon Road intersection the stop-sign-controlled Adobe Canyon Road southbound left turn to SR 12 would operate at LOS F during all three analyzed peak hours. The SR 12 eastbound left turn to Adobe Canyon Road would operate at LOS A during the Friday AM peak hour and LOS B during the Friday PM and Sunday PM peak hour.

At the SR 12/Randolph Avenue intersection the stop-sign-controlled Randolph Avenue northbound left turn to SR 12 would operate at LOS F during the Friday AM peak hour, LOS D during the Friday PM peak hour and LOS E during the Sunday peak hour. The SR 12 westbound left turn to Randolph Avenue would operate at LOS A during the all three analyzed peak hours.

The SR 12/Warm Springs Road intersection is planned to be signalized by 2005, and with signalization, operation would be at acceptable levels (LOS A or B) during all three analyzed peak hours.

Year 2012

Exhibits 5.2-6, 5.2-7, and 5.2-8 show that the SR 12/Oakmont Drive and SR 12/Pythian Road signalized intersections would maintain LOS B or C operation by 2012 during all three analyzed peak hours.

At the SR 12/Lawndale Road intersection the stop-sign-controlled Lawndale Road northbound approach to SR 12 would operate at LOS F during all three analyzed peak hours. The SR 12 westbound left turn to Lawndale Road would operate at LOS B during all three analyzed peak hours.

At the SR12/Adobe Canyon Road intersection the stop-sign-controlled Adobe Canyon Road southbound left turn to SR 12 would operate at LOS F during all three analyzed peak hours. The SR 12 eastbound left turn to Adobe Canyon Road would operate at LOS B during all three analyzed peak hours.

At the SR 12/Randolph Avenue intersection the stop-sign-controlled Randolph Avenue northbound left turn to SR 12 would operate at LOS F during the Friday AM and Sunday peak hours, and LOS E during the Friday PM peak hour. The SR 12 westbound left turn to Randolph Avenue would operate at LOS B during the Friday AM and Sunday peak hours, and LOS A during the Friday PM peak hour

The SR 12/Warm Springs Road intersection is planned to be signalized by 2005, and with signalization, operation would be at acceptable levels (LOS A or B) during all three analyzed peak hours

BASE CASE INTERSECTION SIGNALIZATION NEEDS

Year 2005

Year 2005 base case volumes would not meet rural peak hour signal warrant criteria levels at the SR 12 intersections with Lawndale Road, Adobe Canyon Road or Randolph Avenue during any of the three analyzed time periods.

Year 2012

Year 2012 base case volumes would meet rural peak hour signal warrant criteria levels at the SR 12/Randolph Avenue intersection during the Friday AM peak hour (but not during the Friday or Sunday PM peak hours). In addition, 2012 base case volumes would not meet signal warrant criteria levels at the

SR 12 intersections with Lawndale Road or Adobe Canyon Road during any of the three analyzed time periods.

Measures Recommended to Improve Base Case Intersection Operating Conditions

In addition to the proposed SR 12/Warm Springs Road signalization, recommendations for improvements to Base Case 2005 and 2012 intersection operating conditions are the same as are listed for existing conditions. They are as follows:

- x Provide a two-lane northbound Lawndale Road approach to SR 12 and a two-lane northbound Randolph Avenue approach to SR 12. This would require widening and restriping the Lawndale Road and Randolph Avenue northbound intersection approaches to provide separate right and left turn lanes. Even with this improvement the northbound left turn movement at each intersection would continue to operate unacceptably (at LOS F), but average control delay for northbound right turns would be improved.

BASE CASE ROADWAY OPERATION

Year 2005

Exhibits 5.2-9, 5.2-10, and 5.2-11 show that by 2005 all analyzed segments of SR 12 (from west of Oakmont Drive to east of Warm Springs Road) would be operating at LOS E conditions during all three peak traffic hours analyzed.

Year 2012

Exhibits 5.2-9, 5.2-10, and 5.2-11 show that by 2012 all analyzed segments of SR 12 (from west of Oakmont Drive to east of Warm Springs Road) would be operating at LOS E conditions during all three peak traffic hours analyzed.

Measures Recommended to Improve Base Case Roadway Operating Conditions

Recommendations for improvements to Base Case 2005 and 2012 intersection operating conditions are the same as are listed for existing conditions. They are as follows:

To improve and/or maintain the SR 12 LOS E condition during the peak traffic hours analyzed, roadway capacity improvements could be provided, as follows:

- x Widen shoulders wherever they are less than eight feet wide; widen the highway to provide continuous turn lanes wherever needed; and provide improvements such as turn lanes at major intersections.

SR 12 capacity could be substantially improved by expanding the highway to four lanes (two lanes in each direction) with left turn lanes provided at major roadway and driveway intersections. However, as stated in the Initial Study for this project, “the citizens of Sonoma Valley have continuously strongly opposed construction of ...modifications to the highway that would affect the rural, scenic character of the valley.

Therefore, improvements to Sonoma Highway [SR 12] are primarily based on [moderate improvements to accommodate] traffic flow, while keeping rural densities low.”¹⁶

Traffic and Circulation – Significance Criteria¹⁷

A. SIGNIFICANCE CRITERIA FOR PROJECT-LEVEL IMPACTS

The project would have a significant traffic impact if it results in any of the following conditions:

- I. On-site roads and frontage improvements: Proposed on-site circulation would not meet the County’s minimum standards for roadway or driveway design, or, in the opinion of the registered traffic engineer conducting the study, result in safety hazards.
- II. Parking: Proposed on-site parking supply would not be adequate to accommodate parking demand.
- III. Emergency Access: The project site would have inadequate emergency access.
- IV. Policies and Plans: The project conflicts with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).
- V. Road Hazards: Hazards are substantially increased due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

B. SIGNIFICANCE CRITERIA FOR BOTH PROJECT LEVEL AND CUMULATIVE IMPACTS

The following criteria are used to determine both project-level and cumulative traffic impacts. The impact would be significant if:

- VI. Vehicle Queues: The 95th percentile queue length exceeds roadway turn lane storage capacity.¹⁸

¹⁶ *Environmental Checklist Form Sonoma Country Inn, op. cit.*

¹⁷ These criteria were developed by the EIR traffic analyst and the Permit and Resource Management Department staff and approved by PRMD staff for use in this report. In developing these criteria, the significance criteria from two EIRs previously certified by Sonoma County were considered. These were the Kendall-Jackson Winery EIR (SCH# 92073056, April 1994) and the Sears Point Raceway Amended EIR (SCH# 98012044, 1999). The new criteria include the same concepts used in the earlier criteria, but have been expanded and refined to apply to a broader range of conditions. In particular, the new criteria provide a way to describe impacts related to incremental changes in Level of Service. The new criteria also incorporate the latest methodologies for determining intersection and mid-block Level of Service, which are taken from the Highway Capacity Manual 2000. Recognizing that decision makers may wish to compare these new criteria against the older criteria, the older criteria are listed in Appendix 8.6of the DEIR. The appendix provides an analysis of impacts from the *Sonoma Country Inn* project under the older significance criteria.

¹⁸ Based upon HCS analysis methodology for signalized intersections and formula contained in November 2001 ITE Article (*Estimation of Queue Length at Unsignalized Intersections*) for side street stop sign controlled intersections.

VII. Signal Warrants: Conditions change to cause an intersection to meet or exceed Caltrans signal warrant criteria.

VIII. Turn Lanes: Traffic volumes are increased to a level meeting or exceeding criteria for provision of a right or left turn lane on an intersection approach. ¹⁹

IX. Sight Lines: An unsignalized intersection is created or traffic is added to an existing unsignalized intersection approach that does not have adequate sight lines based upon Caltrans criteria for state highway intersections and County criteria for County roadway intersections.

X. County Signalized Intersections: There would be a significant cumulative impact if the operation of a County road intersection is worse than Level of Service (LOS) D in the existing base case, or if future cumulative peak hour traffic would cause the intersection operation to become worse than LOS D.

If there is a significant cumulative impact as described above, then the project-related traffic is considered to be a significant impact that is cumulatively considerable if it exceeds the delay or volume thresholds as listed below. LOS and Delay apply to the entire intersection.

COUNTY SIGNALIZED INTERSECTIONS

<i>If the existing or Base Case (without project) LOS is:</i>	<i>Then the existing control delay is: ²⁰</i>	<i>The project impact is considered significant if the increase in control delay associated with the project is:</i>
A	10 seconds or less	10 seconds
B	10.1 to 20 seconds	10 seconds
C	20.1 to 35 seconds	7.5 seconds
D	35.1 to 55 seconds	7.5 seconds
E	55.1 to 80 seconds	7.5 seconds or 40 vehicle trips ²¹
F	Greater than 80	5 seconds or 25 vehicle trips ²¹

XI. The following criteria apply to all-way stop sign controlled or side street stop sign controlled intersections on County roads. The criteria do not apply to low volume roadways. ²²

¹⁹ Based upon Caltrans criteria for state highways and TRB Circular 279 (*Warrants for Provision of Left Turn Lanes*) for county roadways

²⁰ As defined in the year 2000 Highway Capacity Manual. Note: The year 2000 Highway Capacity Manual refers to *average* control delay for side street stop-sign controlled intersections.

²¹ Signalized Intersections: If the addition of project traffic results in a *reduction* (rather than an *increase*) in intersection control delay, evaluation should then consider significant if 40 or more project vehicle trips are added to an intersection operating at LOS E or 25 or more project vehicle trips are added to an intersection operating at LOS F.

There would be a significant cumulative impact if operation of a County road intersection is worse than LOS D in the existing base case, or if future cumulative peak hour traffic volumes would cause the operation of the intersection to become worse than LOS D.

If there is a significant cumulative impact as described in the paragraph above, then the project-related traffic is considered to be a significant impact that is cumulatively considerable if it exceeds the delay or volume thresholds as listed below. For all-way stop sign controlled intersections LOS and Delay apply to the entire intersection.

COUNTY UNSIGNALIZED INTERSECTIONS²²

<i>If the existing or Base Case (without project) LOS is:</i>	<i>Then the existing control delay experienced by that movement or approach is:</i> ²⁰	<i>The project impact is considered significant if the increase in control delay associated with the project is:</i>
A	10 seconds or less	10 seconds
B	10.1 to 15 seconds	5 seconds
C	15.1 to 25 seconds	5 seconds
D	25.1 to 35 seconds	5 seconds
E	35.1 to 50 seconds	5 seconds (or 30 vehicle trips) ²³
F	Greater than 50	5 seconds (or 20 vehicle trips) ²³

XII. County Mid-road Operation: There would be a significant cumulative impact if operation of a County mid-road segment is worse than LOS C in the existing base case, or if projected future peak hour cumulative traffic volumes would cause the operation of the mid-road segment to become worse than LOS C. This criterion does not apply if operation worse than LOS C has been found acceptable for that road under Objective CT-2.1 of the Sonoma County General Plan.

If there is a significant cumulative impact as described in the paragraph above, then the project-related traffic is considered to be a significant impact that is cumulatively considerable if it causes peak hour mid-road travel speeds to decrease by the amounts as listed in below.

²² LOS significance criteria do not apply to roadways with projected traffic volumes of less than 30 vehicles per hour per approach or per exclusive left turn movement

²³ Unsignalized intersections: If the addition of project traffic results in a *reduction* (rather than an *increase*) in average control delay for the critical approach or turn movement (or for the entire intersection for an all-way stop controlled intersection), the impact is significant if 30 or more project vehicle trips added to an intersection with one or more movements operating at LOS E or 20 or more project vehicle trips added to an intersection with one or more movements operating at LOS F.

SIGNIFICANCE CRITERIA FOR 2-LANE COUNTY HIGHWAYS MID-ROAD LEVEL OF SERVICE

<i>If the existing or Base Case (without project) LOS is:</i>	<i>Then the existing average travel speed is (miles per hour [mph]):</i>	<i>The project impact is considered significant if the decrease in average travel speed associated with the project is:</i>
A	greater than 55 mph	5 mph
B	50-55 mph	4 mph
C	45-50 mph	3 mph
D	40-45 mph	2 mph
E	40 mph or less	1 mph
F ²⁴		0.5 mph

XIII. Operation of State Highways:²⁵ These criteria apply only to State highways. Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highways. If the existing operation of a State highway is worse than LOS C, the existing “measures of effectiveness” should be maintained. Measures of effectiveness are: (a) control delay per vehicle for signalized intersections; (b) average control delay per vehicle for unsignalized intersections; (c) average speed for two lane highways, and (d) density for multi-lane highways.²⁶

There would be a significant cumulative impact if operation of a State highway is worse than LOS C in the base case, or if projected future peak hour cumulative traffic volumes would cause the operation to become worse than LOS C. A project would have a significant impact if the project-related traffic causes the operation of a State highway to become worse than LOS C.

²⁴ The year 2000 Highway Capacity Manual does not provide an average travel speed breakpoint between LOS E and LOS F operation.

²⁵ State Highway thresholds are based on *Caltrans Guide for the Preparation of Traffic Impact Studies*, State of California Department of Transportation, June 2001.

²⁶ Measures of effectiveness are defined in the most recent version of the *Highway Capacity Manual*, Transportation Research Board, National Research Council.

Traffic and Circulation – Impacts and Mitigation

PROJECT TRIP GENERATION

Trip generation of the proposed project was developed through interviews with the project applicant's representative²⁷ and information contained in the project application augmented by the EIR traffic analyst's experience with other resorts and housing developments. For purposes of presenting a conservative analysis, all project components were assumed completed and in full operation, with the 50-room inn occupancy at 100 percent on Friday, Saturday and Sunday evenings. Exhibit 5.2-19 shows projections of expected maximum inn/spa/restaurant and winery traffic activity -- without a special event in progress -- for all three analyzed peak hours. Exhibit 5.2-20 shows traffic volumes generated by the 11 single-family residences for all three analyzed peak hours.

Exhibit 5.2-21 shows total project traffic generation (inn/spa/restaurant, winery, country store/wine tasting, and residences.) The proposed project would generate about 34 inbound trips and 17 outbound trips from 7:30 to 8:30 AM on a summer Friday, of which approximately 22 percent would be guest and visitor trips, 46 percent would be employee trips and 32 percent would be generated by residents. From 5:00 to 6:00 PM on a summer Friday, the proposed project would generate about 26 inbound trips and 39 outbound trips, of which approximately 29 percent would be guest and visitor trips, 19 percent would be employee trips and 17 percent would be generated by residents. From 3:30 to 4:30 PM on a Sunday, the proposed project would generate about 29 inbound trips and 40 outbound trips, of which approximately 42 percent would be guest and visitor trips, 13 percent would be employee trips, and 14 percent would be generated by project residents.

TRIP DISTRIBUTION

Project traffic was distributed on the local roadway system based on existing traffic flow patterns, the EIR traffic analyst's knowledge of local area attractions, and the following assumptions:

- x Guests and visitors to the inn/spa/restaurant and the winery would likely travel to and from the project site with a 50/50 west-east distribution pattern on SR 12.
- x More employees would be likely to travel to and from the west (Santa Rosa population center), thus, a 70/30 west-east distribution has been applied to inbound and outbound employee trips.
- x Residential distribution would be similar to the 60/40 west-east pattern observed for residential traffic traveling to and from Lawndale Road and other residential-serving roadway connections to SR 12.

Exhibit 5.2-22 shows the project trip distribution percentages for each component of the proposed project. The project trip distribution would be the same for all time periods analyzed in this EIR.

²⁷ Crane Transportation Group conversation with Mike Morrison, Common Ground Land Planning Services, (Applicant's representative), April and May, 2002.

EXHIBIT 5.2-19

PROJECT TRIP GENERATION – SONOMA COUNTRY INN WITHOUT SPECIAL EVENTS ^a

	Friday AM Peak Hour Trips 7:30-8:30		Friday PM Peak Hour Trips 5:00-6:00		Sunday PM Peak Hour Trips 3:30-4:30	
	<i>Inbound</i>	<i>Outbound</i>	<i>Inbound</i>	<i>Outbound</i>	<i>Inbound</i>	<i>Outbound</i>
Resort Employee Trips						
Spa Staff	0	0	0	0	0	3
Restaurant/Bar	2	0	0	0	2	2
Inn Administration	6	0	0	6	0	0
Inn Housekeeping	3	0	1	2	0	4
Maintenance/Grounds	4	2	0	0	1	1
Bellman/Valet	0	0	0	0	0	0
<i>Subtotal</i>	<i>15</i>	<i>2</i>	<i>1</i>	<i>8</i>	<i>3</i>	<i>10</i>
Resort Guest / Visitor Trips						
Inn Guests	1	5	13	6	6	6
Restaurant Patrons ^b	2	2	2	0	3	3
Spa Patrons ^b	1	0	2	2	2	2
Guest/Visitor Subtotal	4	7	17	8	11	11
<i>Total Resort</i>	<i>19</i>	<i>9</i>	<i>18</i>	<i>16</i>	<i>14</i>	<i>21</i>
Winery & Country Store / Wine Tasting Employee Trips						
Winery Staff	7	0	0	7	0	0
Country Store & Retail Wine Tasting Staff	0	0	0	3	0	0
<i>Subtotal</i>	<i>7</i>	<i>0</i>	<i>0</i>	<i>10</i>	<i>0</i>	<i>0</i>
Country Store / Wine Tasting Patrons						
Country Store & Winery Patrons	0	0	1	3	10	10
<i>Total Winery, Country Store / Wine Tasting Trips</i>	<i>7</i>	<i>0</i>	<i>1</i>	<i>13</i>	<i>10</i>	<i>10</i>
TOTAL PROJECT	26	9	19	29	24	31

^a Includes Resort, Winery, Country Store/Wine Tasting (without a Special Event)

^b Not staying in project lodging units.

Source: Crane Transportation Group

**EXHIBIT 5.2-20
PROJECT RESIDENTIAL TRIP GENERATION**

Land Use	Size	Friday AM Peak Hour Trips 7:30-8:30				Friday PM Peak Hour Trips 5:00-6:00				Sunday PM Peak Hour Trips 3:30-4:30			
		Inbound		Outbound		Inbound		Outbound		Inbound		Outbound	
		Rate	Vol	Rate	Vol	Rate	Vol	Rate	Vol	Rate	Vol	Rate	Vol
Single Family Residences ^a	11 d.u.	.19	3	.56	6	.65	7	.36	4	.46	5	.40	5
Gardeners / Maintenance Workers ^b			5				0						4
<i>TOTAL</i>							7						9

^a Trip Rate Source: Trip Generation, 6th Edition by the Institute of Transportation Engineers, 1997.

^b Trip generation by gardeners, maids and other maintenance workers is based on surveys by CTG of trips to and from large lot, upper end housing in Sonoma Valley.
Source: Crane Transportation Group

**EXHIBIT 5.2-21
TOTAL PROJECT TRIP GENERATION ^a**

Land Use	Friday AM Peak Hour Trips 7:30-8:30		Friday PM Peak Hour Trips 5:00-6:00		Sunday PM Peak Hour Trips 3:30-4:30	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
Resort (w/o Special Event), Winery, Country Store/Wine Tasting	26	9	19	29	24	31
Residential	8	8	7	10	5	9
<i>TOTAL</i>	34	17	26	39	29	40

^a Totals from Exhibits 5.2-19 and 5.2-20.

Source: Crane Transportation Group

EXHIBIT 5.2-22
PROJECT TRIP DISTRIBUTION

	Employee Trips		Inn, Spa And Winery Guest And Visitor Trips		Residential Trips		Special Event Trips	
	% Inbound	% Outbound	% Inbound	% Outbound	% Inbound	% Outbound	% Inbound	% Outbound
SR 12 -to/from west	70	70	50	50	60	60	80	80
SR 12 -to/from east	30	30	50	50	40	40	20	20
<i>TOTAL</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

Source: Crane Transportation Group

BASE CASE-PLUS-PROJECT VOLUMES

Exhibits 5.2-23, 5.2-24, and 5.2-25 show year 2005 base case-plus-project (without project special event) traffic volumes as follows:

Exhibit 5.2-23: Friday, 7:30 to 8:30 AM

Exhibit 5.2-24: Friday, 5:00 to 6:00 PM

Exhibit 5.2-25: Sunday, 3:30 to 4:30 PM

Exhibits 5.2-26, 5.2-27, and 5.2-28 show year 2012 base case-plus-project (without project special event) traffic volumes as follows:

Exhibit 5.2-26 Friday, 7:30-8:30 AM

Exhibit 5.2-27 Friday, 5:00-6:00 PM

Exhibit 5.2-28 Sunday, 3:30-4:30 PM

BASE CASE-PLUS-PROJECT INTERSECTION OPERATION

Impact 5.2-1 2005 Intersection Operation with Project and No Special Events

Year 2005 base case-plus-project volumes would result in five seconds or more increase in average control delay for critical movements at the SR 12 intersections with Adobe Canyon Road and Randolph Avenue where base case conditions are at LOS F. This would be a significant impact.

Year 2005 Intersection Level of Service

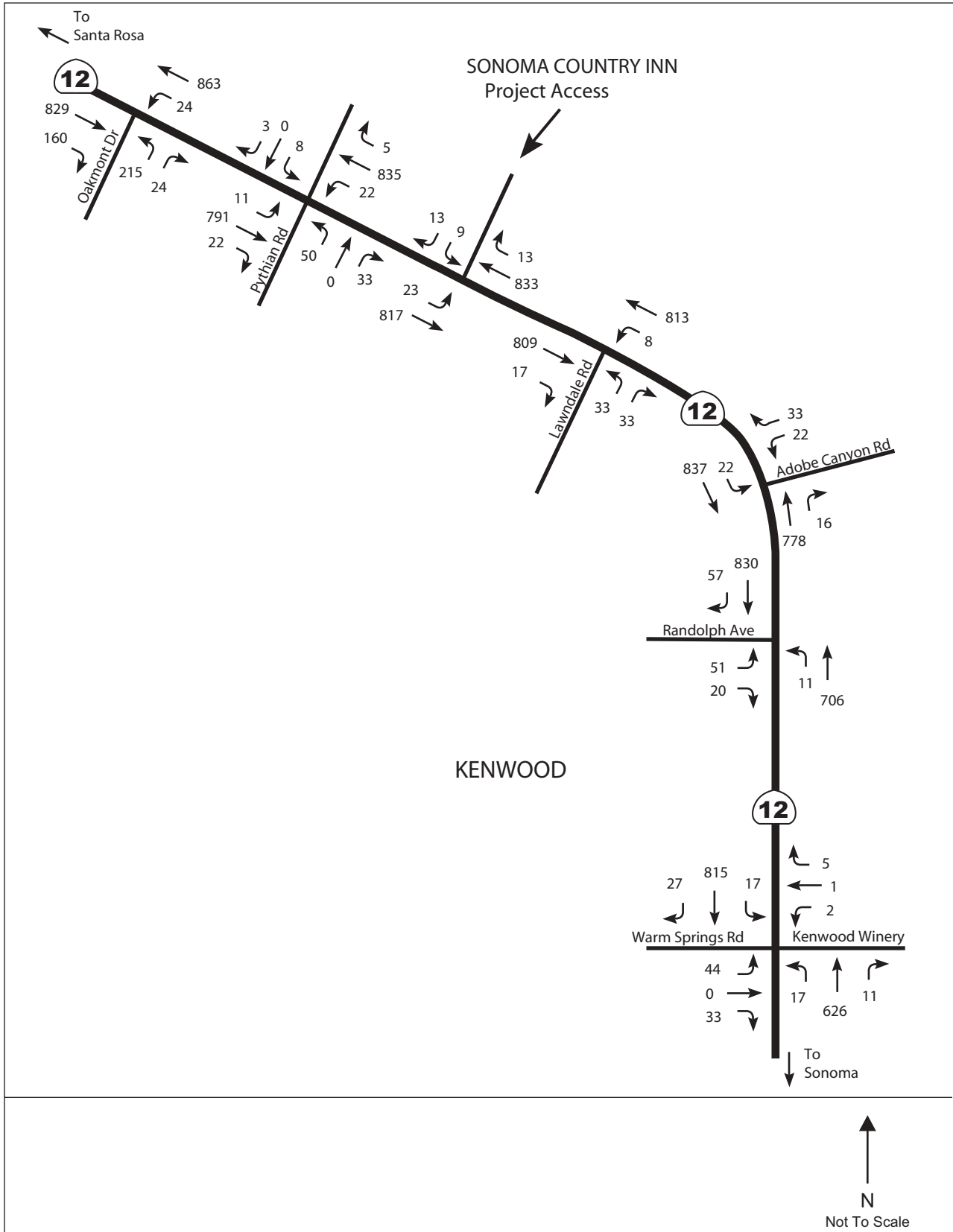
Exhibits 5.2-6, 5.2-7, and 5.2-8 show that with the addition of project traffic the SR 12/Oakmont Drive and SR 12/Pythian Road signalized intersections would maintain LOS A or B operation by 2005 during all three analyzed peak hours.

At the SR 12/Lawndale Road intersection the stop-sign-controlled Lawndale Road northbound approach to SR 12 would change from LOS E to LOS F operation during the Friday AM peak hour. The Lawndale Road northbound approach to SR 12 would remain LOS F with increased average control delay during the Friday and Sunday PM peak hours: however, critical movement average control delay would increase *less than* five seconds. This would be a less-than-significant impact.

At the SR12/Adobe Canyon Road intersection the stop-sign-controlled Adobe Canyon Road southbound left turn to SR 12, operating at LOS F during all three analyzed peak hours, would experience an 8.4 second increase in average control delay during the Sunday PM peak hour. This would be a significant impact.

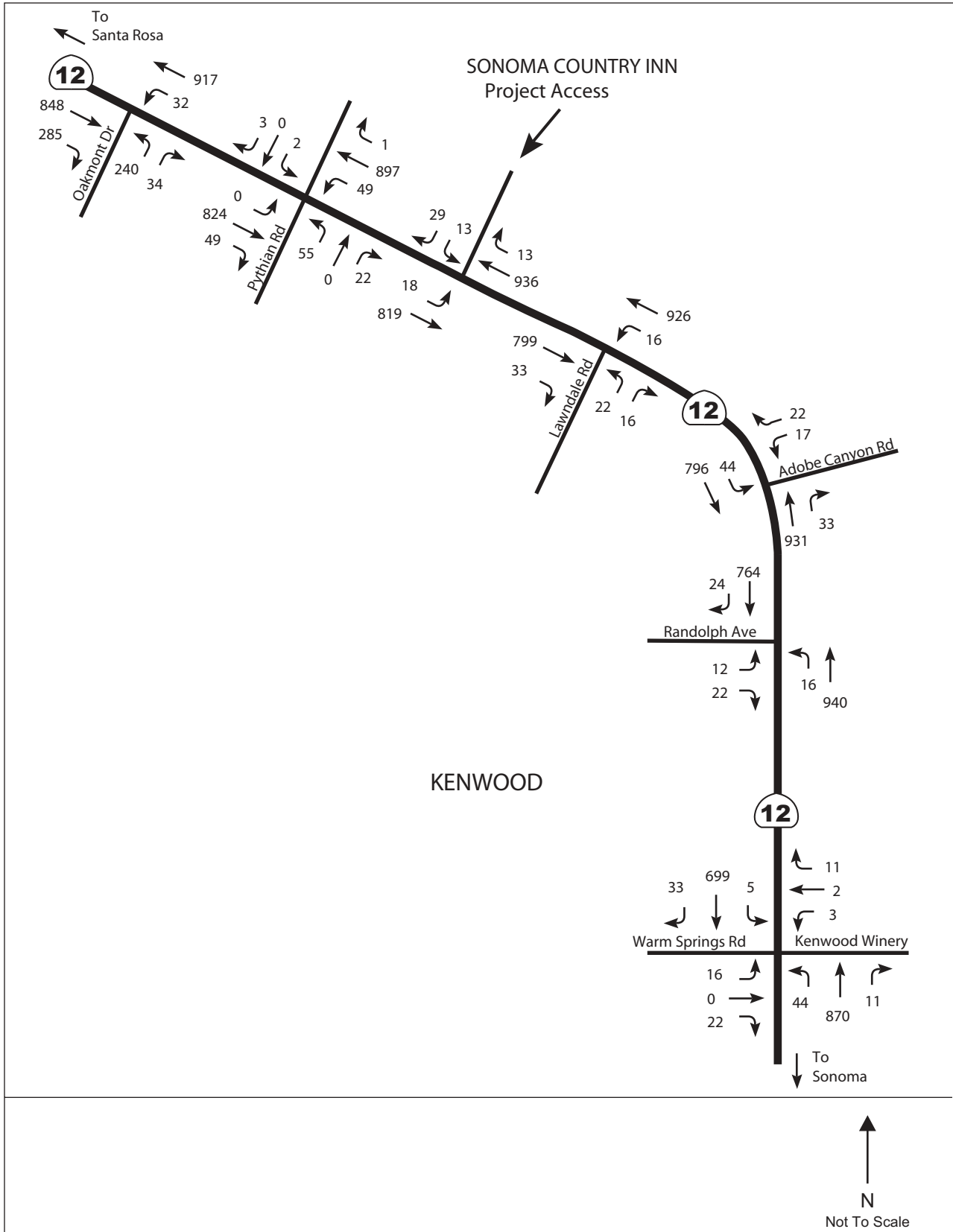
At the SR 12/Randolph Avenue intersection the stop-sign-controlled Randolph Avenue northbound left turn to SR 12 would continue to operate at LOS D during the Friday PM peak hour, LOS E during the Sunday peak hour and LOS F during the Friday AM peak hour, with increased average control delay for all time periods. While critical movement average control delay would increase less than five seconds during

EXHIBIT 5.2-23
YEAR 2005 BASE CASE + PROJECT VOLUMES - FRIDAY AM PEAK HOUR



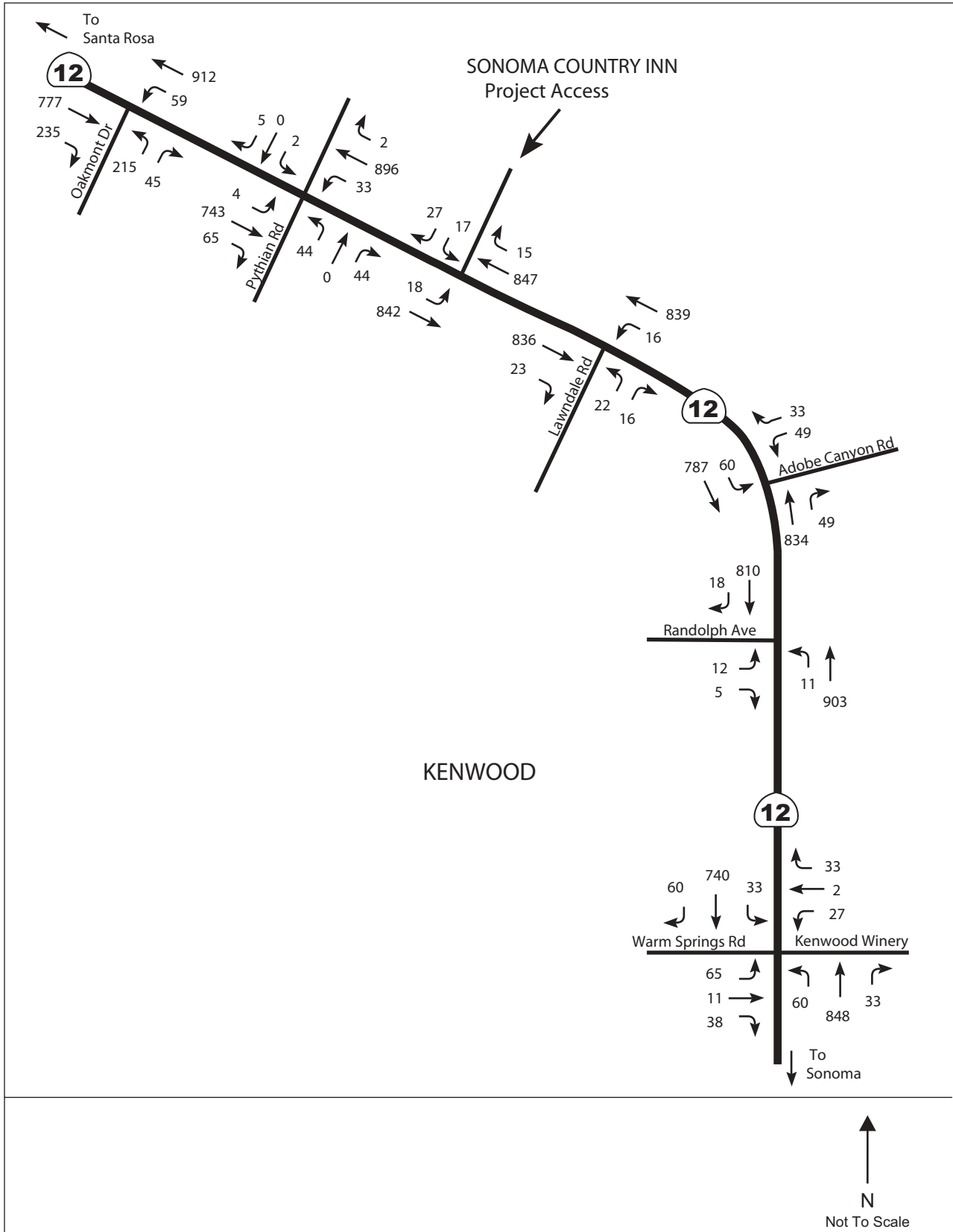
Source: Crane Transportation Group

EXHIBIT 5.2-24
YEAR 2005 BASE CASE + PROJECT VOLUMES - FRIDAY PM PEAK HOUR



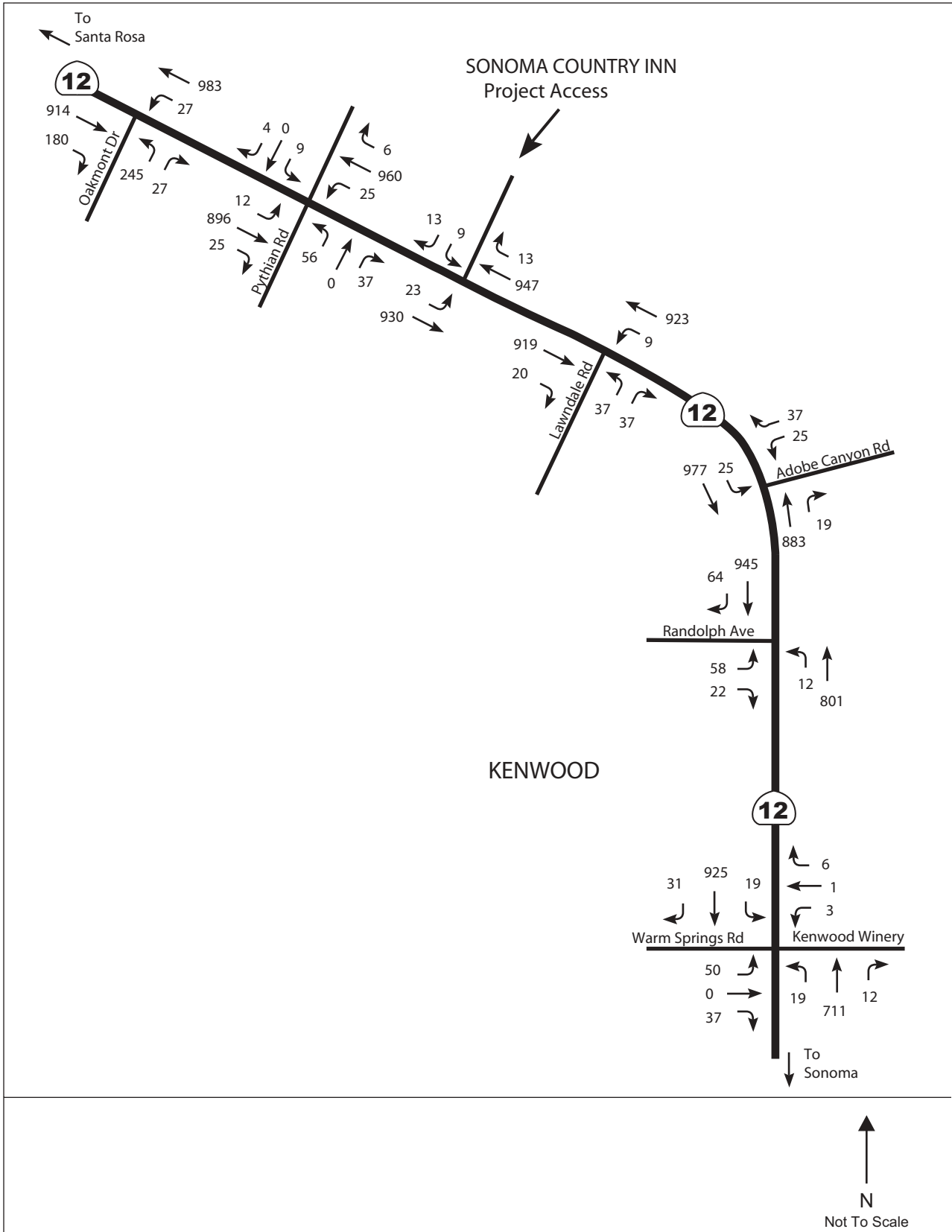
Source: Crane Transportation Group

EXHIBIT 5.2-25
YEAR 2005 BASE CASE + PROJECT VOLUMES - SUNDAY AFTERNOON PEAK HOUR



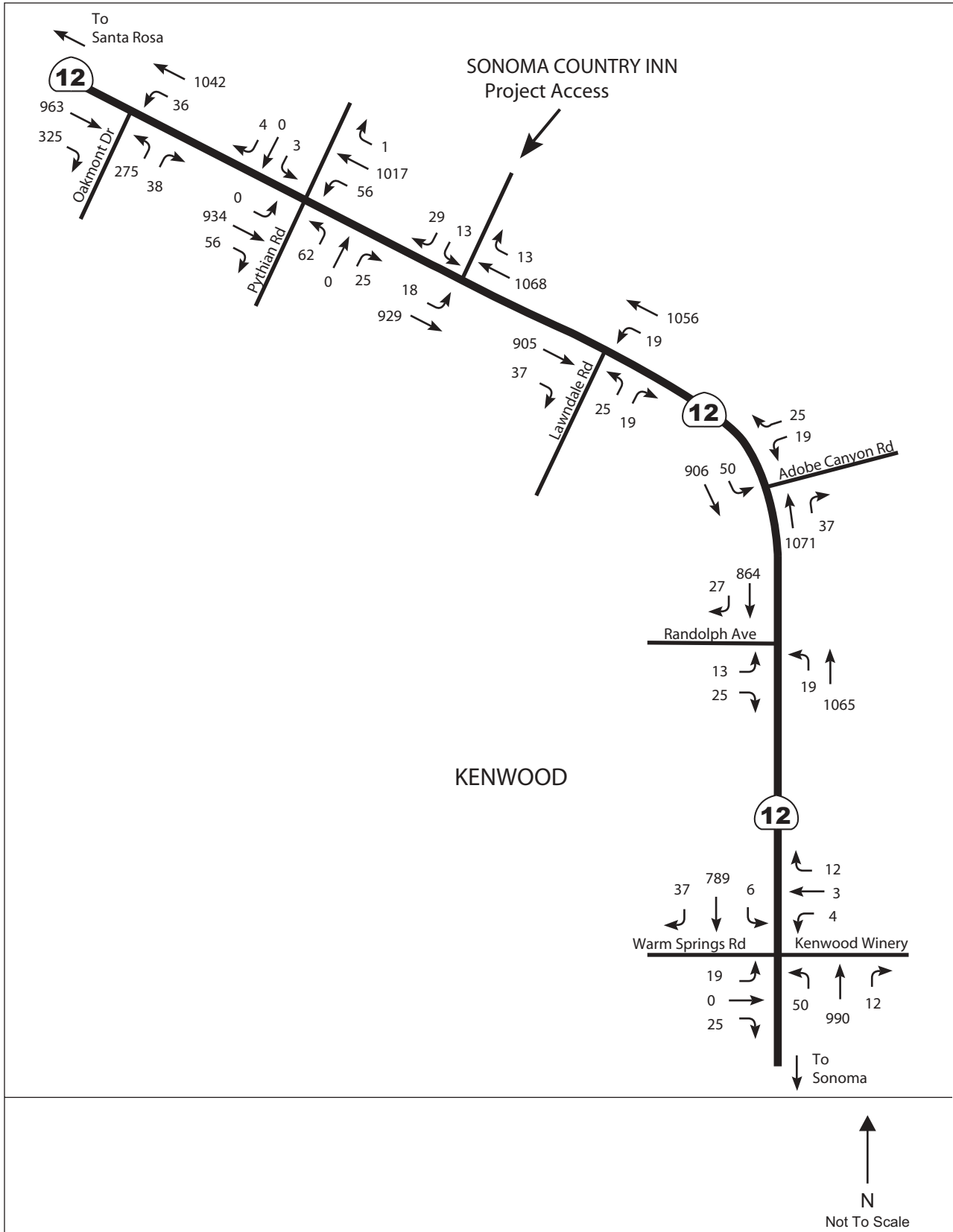
Source: Crane Transportation Group

EXHIBIT 5.2-26
YEAR 2012 BASE CASE + PROJECT VOLUMES - FRIDAY AM PEAK HOUR



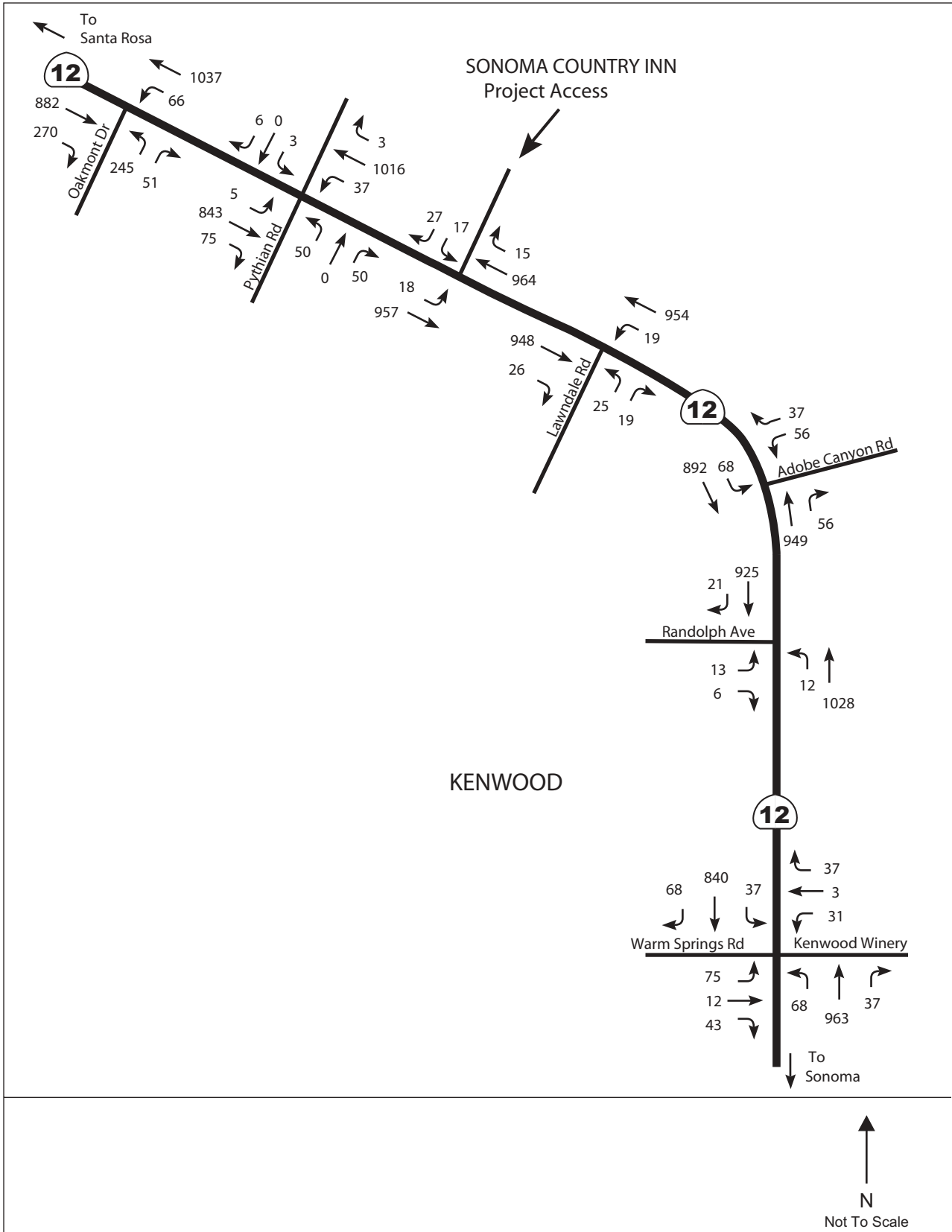
Source: Crane Transportation Group

EXHIBIT 5.2-27
YEAR 2012 BASE CASE + PROJECT VOLUMES - FRIDAY PM PEAK HOUR



Source: Crane Transportation Group

EXHIBIT 5.2-28
YEAR 2012 BASE CASE + PROJECT VOLUMES - SUNDAY AFTERNOON PEAK HOUR



Source: Crane Transportation Group

the Friday and Sunday PM peak hours, delay would increase by 5.9 seconds during the Friday AM peak hour due to project-generated traffic. This would be a significant impact.

The SR 12/Warm Springs Road intersection is planned to be signalized by 2005, and operation would be at acceptable levels during all three analyzed peak hours (LOS A or B) with the addition of project traffic.

Year 2005 Signalization Need Impacts

Volumes would not be increased above signal warrant criteria levels with the addition of project traffic at the SR 12 intersections with Lawndale Road, Adobe Canyon Road, or Randolph Avenue. This would be a less-than-significant impact.

Mitigation Measure 5.2-1 In addition to Roadway Improvement Fund fees required by Article 98 of the Sonoma County Zoning Ordinance, the project applicant shall pay the project's fair share contribution²⁸ of the following measures:

Mitigation Measure 5.2-1(a)

- (1) Remove the 90-degree parking adjacent to the Fire Station on the east side of Randolph Avenue and widen to provide a second northbound approach lane to SR 12.
- (2) Widen Adobe Canyon Road and stripe to improve and clearly separate the two southbound approach lanes to SR 12.

Even with these improvements the northbound left turn movement at Randolph Avenue and the southbound left turn movement at Adobe Canyon Road would continue to operate unacceptably (at LOS F), but average control delay for respective right turns would be improved.

Mitigation Measure 5.2-1(b)

- (1) Signalize the SR 12 intersections with Randolph Avenue and Adobe Canyon Road when warranted.

Significance After Mitigation Implementation of Mitigation Measure 5.2-1(a) "widening and restriping" would reduce project impacts, but the impact would remain significant. With these improvements average control delay for northbound right turns would be improved, but the northbound left turn movement at each intersection would continue to operate unacceptably (at LOS F). This would be a significant unavoidable impact.

The only feasible method to reduce project impacts to a less-than-significant level would be to implement Mitigation Measure 5.2-1(b) signalization of the SR 12 intersections with Randolph Avenue and Adobe Canyon Road.

The Caltrans Traffic Manual contains eleven possible tests for determining whether a traffic signal should be considered for installation. These tests, called "warrants", consider criteria such as actual traffic volume, pedestrian volume, presence of school children, and accident history. Two or more warrants must be met before a signal is installed. This EIR applied the test for peak hour volumes (Warrant #11), using "Rural" warrant criteria. Based upon year 2005 and 2012 Base Case Plus Project traffic volumes, except

²⁸ "Fair share" shall be calculated consistent with Caltrans "Guide for the Preparation of Traffic Impact Studies" June 2001.

for the SR 12/Randolph Avenue intersection during the Friday AM peak hour Warrant 11 would not be met; specifically, the peak hour traffic volume of the minor street approach would not meet or exceed the 75 vehicles per hour required by Caltrans Warrant #11.

In the future, the County or Caltrans could conduct detailed analyses to determine whether other signal warrants are met. Until such time that signalization occurs at these two intersections this impact would remain a significant unavoidable impact.

Responsibility and Monitoring The applicant would be responsible for funding its fair share of Mitigation Measure 5.2-1. The County would be responsible for collecting funds and determining when funds would be applied to improvements.

Impact 5.2-2 2012 Intersection Operation with Project and No Special Events

The project traffic contribution to cumulative (year 2012 plus project) traffic volumes would result in five seconds or more increase in average control delay for critical movements at the SR 12 intersections with Adobe Canyon Road and Randolph Avenue where base case conditions are at LOS F. This would be a significant cumulative impact. The project traffic contribution to year 2012 cumulative volumes at the SR 12/Randolph Avenue intersection would add to Friday AM peak hour approach volumes meeting rural signal warrant levels. This would be a significant cumulative safety impact.

Cumulative Conditions (Year 2012-plus-project) Intersection Level of Service

Exhibits 5.2-6, 5.2-7, and 5.2-8 show that the SR 12/Oakmont Drive and SR 12/Pythian Road signalized intersections would operate at LOS A, B, or C by 2012 during all three analyzed peak hours. This would be a less-than-significant impact.

The stop-sign-controlled Lawndale Road northbound approach to SR 12 would operate at LOS F during all three analyzed peak hours and there would be a significant cumulative impact. The project would contribute *less than* a five-second increase in average control delay during Friday AM, Friday PM and Sunday PM peak hours. The proposed project's contribution to the cumulative impact therefore would not be cumulatively considerable.

At the SR12/Adobe Canyon Road intersection the stop-sign-controlled Adobe Canyon Road southbound left turn to SR 12 operating at LOS F during all three analyzed peak hours would experience a 9.4-second increase in average control delay during the Friday PM peak hour and an 18-second increase in average control delay during the Sunday PM peak hour. This would be a significant cumulative impact and the proposed project's contribution would be cumulatively considerable.

At the SR 12/Randolph Avenue intersection the stop-sign-controlled Randolph Avenue northbound left turn to SR 12 would continue to operate at LOS E during the Friday PM peak hour, and LOS F during the Friday AM and Sunday peak hours, with a 14.7-second increase in average control delay during the Friday AM peak hour. This would be a significant cumulative impact and the proposed project's contribution would be cumulatively considerable.

Critical movement vehicle delay would increase less than five seconds during the Friday and Sunday PM peak hours. The proposed project's contribution to the cumulative condition, therefore, would be less than cumulatively considerable.

The SR 12/Warm Springs Road intersection is planned to be signalized before 2005, and operation would be at acceptable levels during all three analyzed peak hours (LOS A or B). This would be a less-than-significant impact.

Cumulative Conditions (Year 2012) Signalization Need Impacts

The increment of project traffic would further increase cumulative (year 2012-plus-project) traffic volumes above rural peak hour signal warrant criteria levels at the SR 12/Randolph Avenue intersection during the Friday AM peak hour. This would be a significant cumulative safety impact and the proposed project's contribution would be cumulatively considerable.

Volumes at the SR 12 intersections with Lawndale Road and Adobe Canyon Road would not be increased to meet peak hour signal warrants during any of the analyzed time periods with the addition of project traffic. Volumes at the SR 12 intersection with Randolph Avenue would not be increased to meet peak hour signal warrants during the Friday or Sunday PM peak hours with the addition of project traffic. Therefore, there would be no cumulative impact related to signal warrants.

Mitigation Measure 5.2-2

Same as Mitigation Measure 5.2-1.

Significance After Mitigation Same as Mitigation Measure 5.2-1.

Responsibility and Monitoring Same as Mitigation Measure 5.2-1.

BASE CASE-PLUS-PROJECT ROADWAY OPERATION

Impact 5.2-3 Roadway Operation with Proposed Project and No Special Events

Year 2005 and 2012 base case plus project volumes would result in maintaining LOS E roadway operation for all analyzed roadway segments during all analyzed time periods. The project's contribution would not result in a decrease in average vehicle speeds by 1.0 mile per hour or greater on any roadway segment. This impact would be less-than-significant.

Year 2005

Exhibits 5.2-9, 5.2-10, and 5.2-11 show that in 2005 all analyzed segments of SR 12 (from west of Oakmont Drive to east of Warm Springs Road) would remain at LOS E operation during all three analyzed peak traffic hours with base case-plus-project traffic. Average vehicle speeds would not be decreased by 1.0 mile per hour or greater with the addition of project traffic.

Year 2012

Exhibits 5.2-9, 5.2-10, and 5.2-11 show that in 2012 all analyzed segments of SR 12 (from west of Oakmont Drive to east of Warm Springs Road) would remain at LOS E operation during all three analyzed peak traffic hours with base case-plus-project traffic. Average vehicle speeds would not be decreased by 1.0 mile per hour or greater with the addition of project traffic.

Mitigation Measure 5.2-3 No mitigation would be required.

YEAR 2005 AND 2012 PROJECT WITH AVERAGE SIZE SPECIAL EVENT

The project proposes 30 special events (weddings, meetings, winemaker dinners, charitable auctions, etc.) per year with a maximum 200-person attendance. An average size event would have a 100-person attendance.²⁹ The majority of events would likely be average size. Events would occur primarily on Friday evenings or weekend afternoons or evenings.

For this EIR, the following assumptions have been used to determine average size special event traffic for the proposed *Sonoma Country Inn*.³⁰

- x Times of special event peak traffic volumes and ambient peak traffic flow would be Friday 5:00 to 6:00 PM (peak inbound flow to a Friday evening event) and Sunday 3:30 to 4:30 PM (peak outbound flow from a weekend day event).
- x Special event staff (kitchen, wait staff and musicians) would arrive prior to the peak inbound flow of guest traffic on a weekday evening, and leave after the peak outbound flow of guest traffic on a weekend afternoon
- x About 70 percent of all guest arrivals would occur during one hour just before the beginning of the event
- x About 70 percent of all departures would occur during one hour just after the end of the event.
- x The average auto occupancy would be 2.2 people per car for a Friday evening event and 2.7 people per car for a Sunday daytime event (when groups would likely be larger, and include several family members).
- x About 80 percent of the inbound traffic would travel from the west on SR 12 and make a left turn into the project access road.³¹
- x About 80 percent of the departing traffic would make a right turn to travel west on SR 12.

These assumptions and the following projections are based upon survey findings from the study conducted by Crane Transportation Group (the EIR traffic analyst) of nearby Chateau St. Jean average size special event traffic.

²⁹ TJKM Transportation Consultants, March 4, 2002.

³⁰ Projections are based primarily upon surveys by Crane Transportation Group of arrival and departure patterns at a special event at Chateau St. Jean winery on a Saturday evening in August, 2000.

³¹ It is assumed that guests and visitors to the inn/spa/restaurant and to the winery would arrive from either direction – stopping at the site while passing the site from north or south. However, it is assumed that attendees of special events would have directions to the site and a specific time of arrival: the majority would travel to the site via Highway 101, east via SR 12. The Santa Rosa direction is the location of the greatest nearby population base, and provides the most direct regional access route to the site.

Sonoma Country Inn Average Size Special Event Arrival/Departure Patterns

Arrivals

Average Day or Evening Event

- x Friday – 70 percent arrive in one hour = 32 vehicles
- x Sunday – 70 percent arrive in one hour = 26 vehicles

Departures

Average Day or Evening Event

- x Friday – 70 percent depart in one hour = 32 vehicles
- x Sunday - -70 percent depart in one hour = 26 vehicles

Exhibits 5.2-29, 5.2-30, 5.2-31, and 5.2-32 show the increment of *Sonoma Country Inn* traffic associated with an average size special event distributed to the local roadway network.

Year 2005 Base Case-Plus-Project-Plus-Project With Average Size Special Event

Exhibit 5.2-29: Friday, 5:00-6:00 PM – Peak inbound flow time to a Friday evening event.

Exhibit 5.2-30: Sunday, 3:30-4:30 PM – Peak outbound flow time from a Sunday day event.

Year 2012 Base Case-Plus-Project-Plus-Project With Average Size Special Event

Exhibit 5.2-31: Friday, 5:00-6:00 PM – Peak inbound flow time to a Friday evening event.

Exhibit 5.2-32: Sunday, 3:30-4:30 PM – Peak outbound flow time from a Sunday day event.

Impact 5.2-4 2005 Intersection Operation with Proposed Project and Average Size Special Event

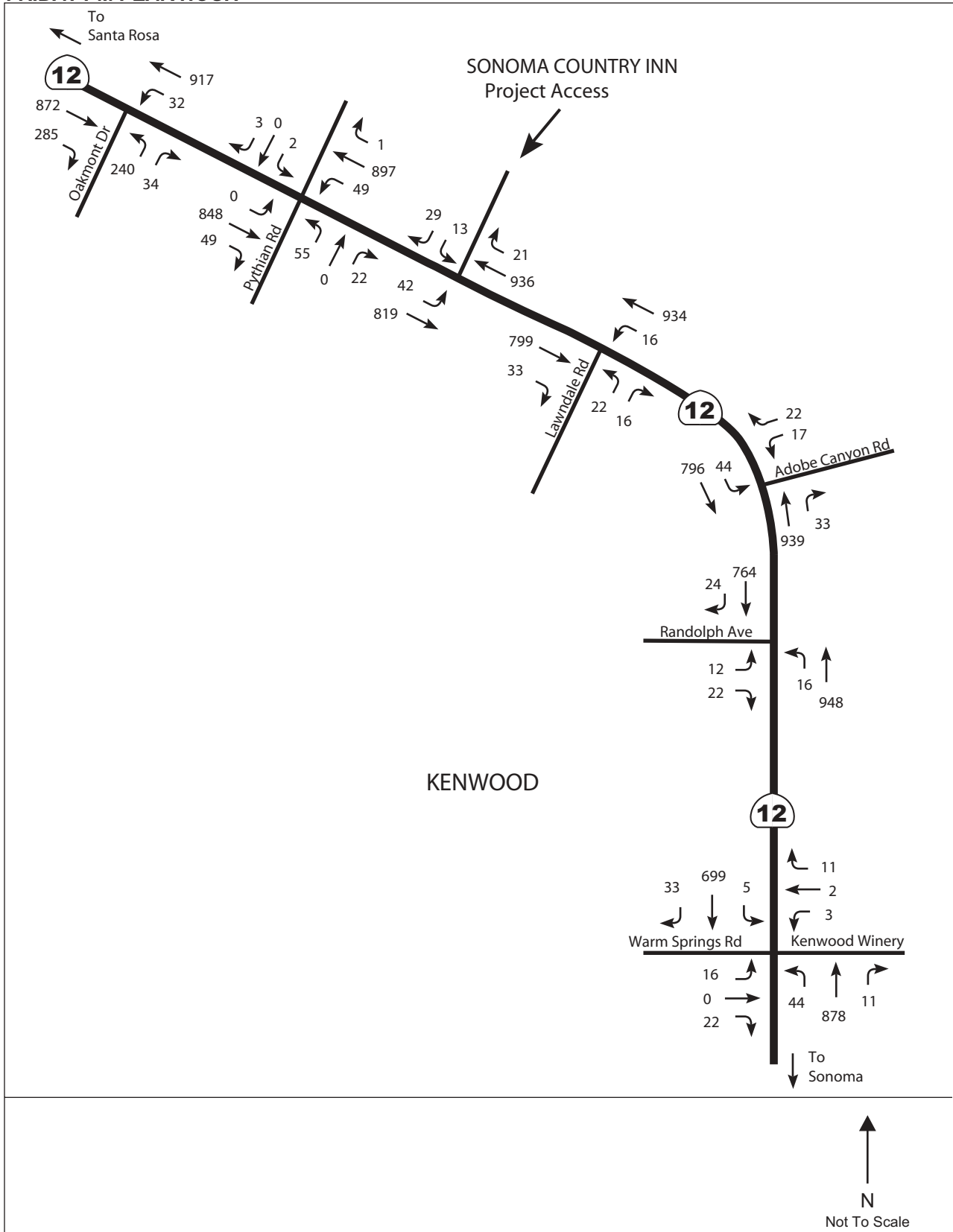
Year 2005 base case-plus-project-plus-project with average size special event traffic would increase average control delay for a critical movement by more than five seconds at the SR 12 intersection with Adobe Canyon Road where the base case-plus-project condition is LOS F. This would be a significant impact.

Year 2005

Exhibits 5.2-33 and 5.3-34 show year 2005 base case-plus-project-plus-project average size special event traffic impacts at major intersections along SR 12 for two time periods (Friday PM peak hour [5:00 to 6:00 PM] and Sunday PM peak hour [3:30 to 4:30 PM]) when project special event traffic would occur during periods of peak ambient traffic flow. The SR 12/Oakmont Drive, SR 12/Pythian Road and SR 12/Warm Springs Road signalized intersections would maintain acceptable LOS A, B or C operation during both analyzed peak hours. This would be a less-than-significant impact.

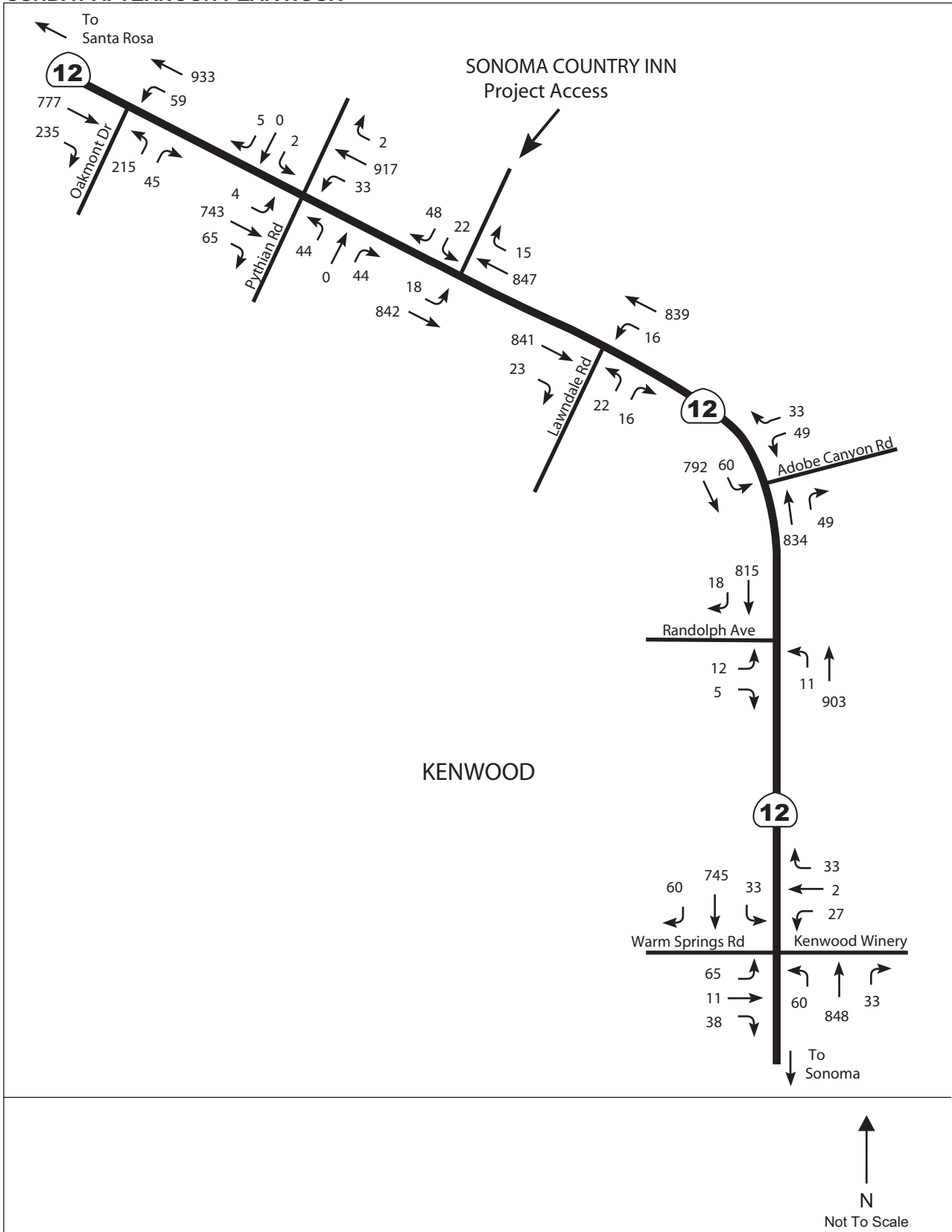
The stop-sign-controlled SR 12/Adobe Canyon Road intersection with a southbound left turn movement operating at LOS F would have a 12 second increase in average control delay during special event peak hours due to project average size special event traffic. This would be a significant impact.

EXHIBIT 5.2-29
YEAR 2005 BASE CASE + PROJECT VOLUMES + PROJECT AVERAGE SIZE SPECIAL EVENT
FRIDAY PM PEAK HOUR



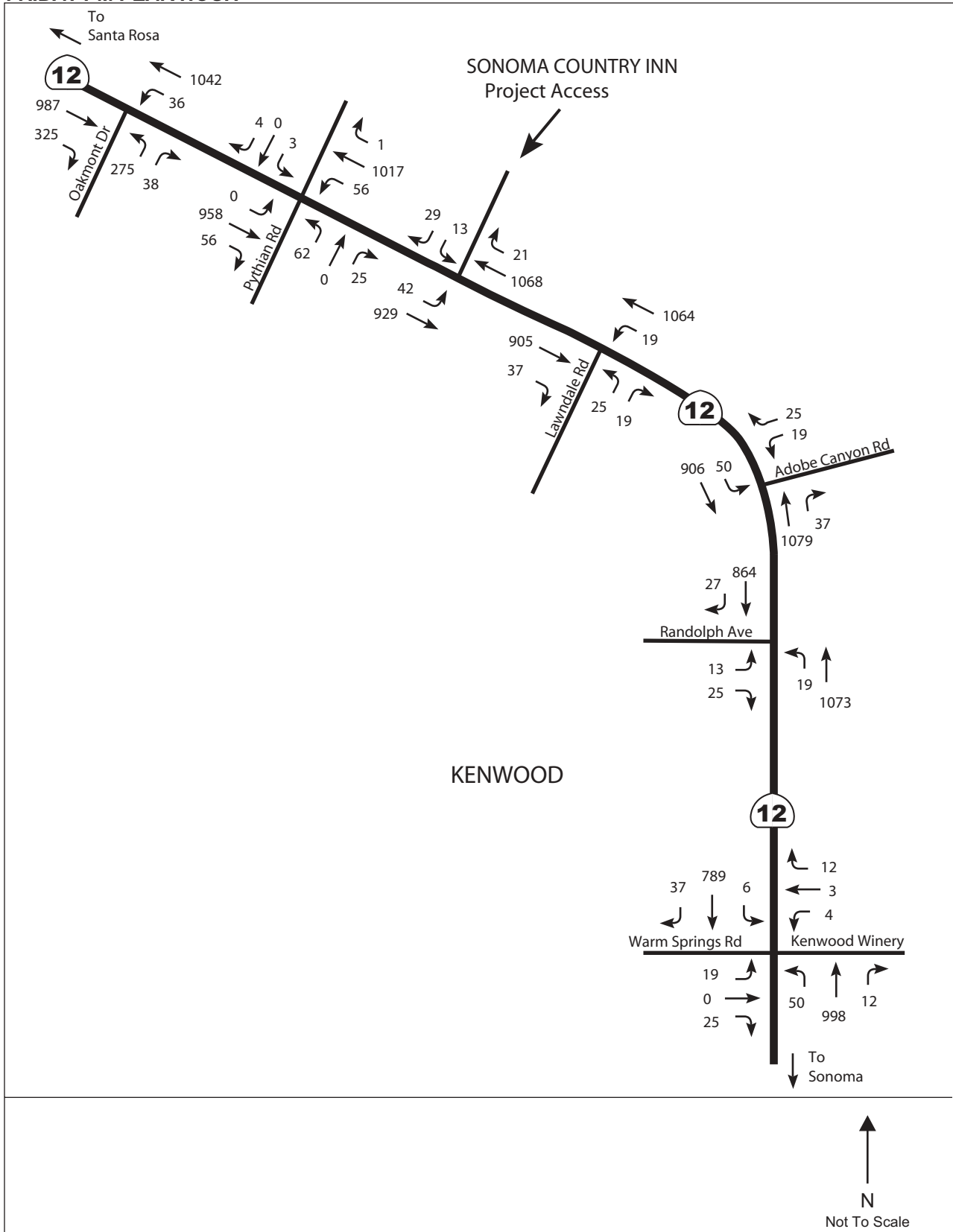
Source: Crane Transportation Group

EXHIBIT 5.2-30
YEAR 2005 BASE CASE + PROJECT VOLUMES + PROJECT AVERAGE SIZE SPECIAL EVENT
SUNDAY AFTERNOON PEAK HOUR



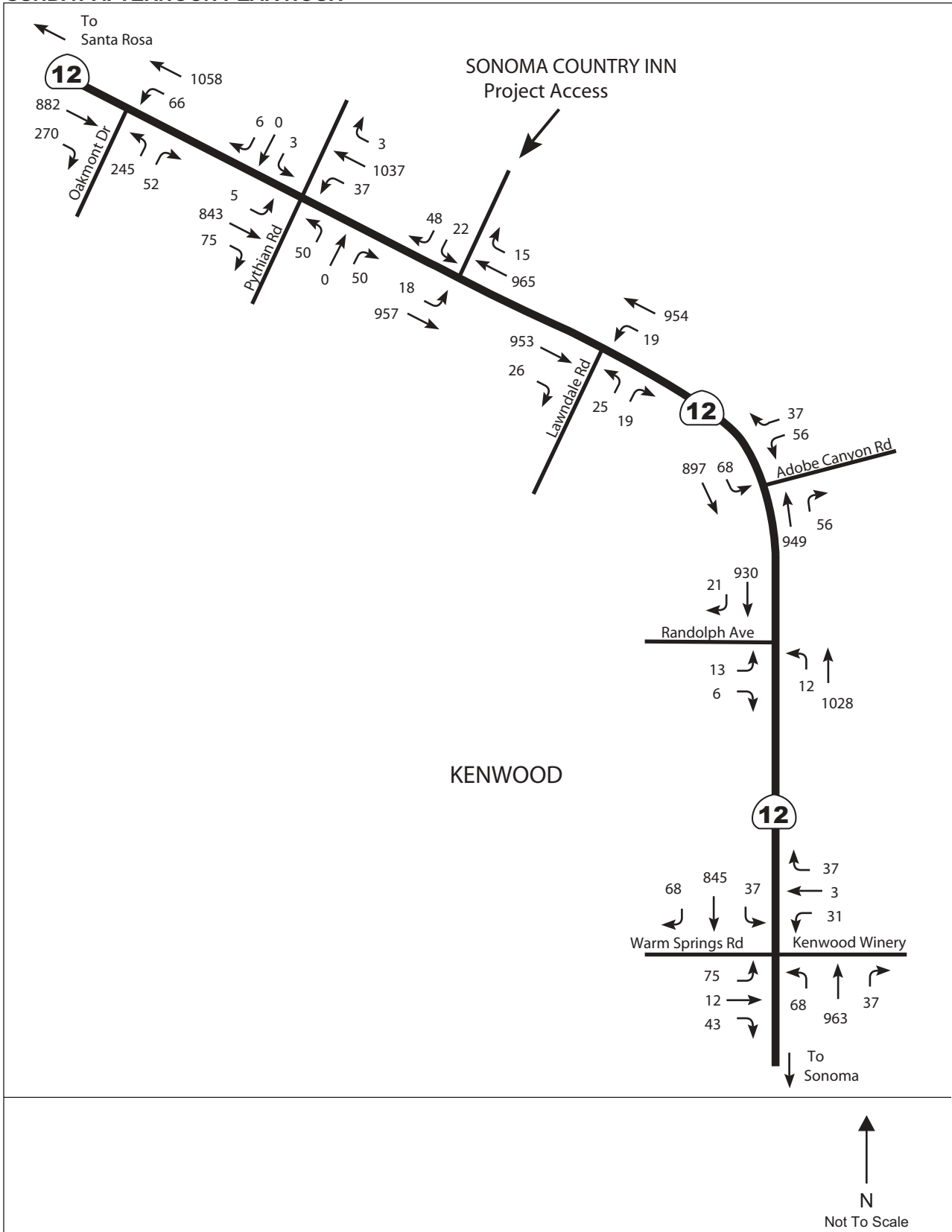
Source: Crane Transportation Group

EXHIBIT 5.2-31
YEAR 2012 BASE CASE + PROJECT VOLUMES + PROJECT AVERAGE SIZE SPECIAL EVENT
FRIDAY PM PEAK HOUR



Source: Crane Transportation Group

EXHIBIT 5.2-32
YEAR 2012 BASE CASE + PROJECT VOLUMES + PROJECT AVERAGE SIZE SPECIAL EVENT
SUNDAY AFTERNOON PEAK HOUR



Source: Crane Transportation Group

EXHIBIT 5.2-33

INTERSECTION LEVEL OF SERVICE FRIDAY 5-6 PM TIME OF MAXIMUM INBOUND FLOW TO SONOMA COUNTRY INN SPECIAL EVENT

<i>Intersection</i>	<i>Year 2005</i>		<i>Year 2012</i>	
	<i>Base Case (No Special Events)</i>	<i>Base Case + Project + Project Average Size Special Event</i>	<i>Base Case (No Special Events)</i>	<i>Base Case + Project + Project Average Size Special Event</i>
SR 12 / Oakmont Dr.	B-15.4 ^a	B-16.4	C-22.1	C-24.3
SR 12 / Pythian Rd.	A-6.3 ^a	A-6.5	A-7.6	A-8.0
SR 12 / Project Access	E-45.3/B-10.2 ^b	F-72.3/B-10.6	F-69.8/B-10.8	F-105/B-11.3
SR 12 / Lawndale Road	F-52.2/B-10.2 ^c	F-55.1/A-9.7	F-85.5/B-10.1	F-91.1/B-10.2
SR 12 / Adobe Canyon Rd	F-76.0/B-10.7 ^d	F-80.2/B-10.8	F-124/B-11.5	F-134/B-11.6
SR 12 / Randolph Avenue	D-31.9/A-9.5 ^e	D-34.4/A-9.6	E-42.6/A-9.9	E-46.5/A-9.9
SR 12 / Warm Springs Rd. / Kenwood Winery	A-5.6 ^a	A-5.7	A-6.8	A-7.0

^a Signalized level of service—control delay (in seconds).

^b Side street stop sign controlled level of service—average control delay (in seconds). SR 12 eastbound left turn to Project Access driveway/ Project Access driveway southbound left turn to SR 12

^c Side street stop sign controlled level of service—average control delay (in seconds). Lawndale Road northbound approach/ SR 12 eastbound left turn to Lawndale Road.

^d Side street stop sign controlled level of service—average control delay (in seconds). SR 12 eastbound left turn to SR 12/ Adobe Canyon Road southbound left turn to SR 12

^e Side street stop sign controlled level of service—average control delay (in seconds). SR 12 westbound approach to Randolph Avenue/ Randolph Avenue northbound left turn to SR 12.

Sources: Year 2000 Highway Capacity Manual Operations Methodology & Crane Transportation Group

EXHIBIT 5.2-34

INTERSECTION LEVEL OF SERVICE SUNDAY 3:30- 4:30 PM TIME OF MAXIMUM OUTBOUND FLOW FROM SONOMA COUNTRY INN SPECIAL EVENTS

Intersection	Year 2005			Year 2012		
	Base Case (No Special Events)	Base Case + Project + Project Average Size Special Event	Base Case + Project + Average Size Special Event at Sonoma Country Inn & All Nearby Wineries ^a	Base Case (No Special Events)	Base Case + Project + Project Average Size Special Event	Base Case + Project + Average Size Special Event at Sonoma Country Inn & All Nearby Wineries ^a
SR 12 / Oakmont Dr	B-14.3 ^b	B-15.0	C-23.5	B-19.2	C-20.8	C-37.9
SR 12 / Pythian Rd	A-6.3 ^b	A-6.5	A-8.9	A-8.2	A-8.7	B-10.4
SR 12 / Project Access	E-47.7/A-9.8 ^c	F-67.4/B-10.0	F-91.9/B-10.6	F-62.7/B-10.3	F-99.2/B-10.5	F-139/B-11.1
SR 12 / Lawndale Rd	F-48.0/A-9.9 ^d	F-50.5/A-9.9	F-67.4/B-10.0	F-75.3/B-10.3	F-80.1/B-10.3	F-114/B-10.5
SR 12 / Adobe Canyon Rd	F-127/B-10.4 ^e	F-139/B-10.5	F-225/B-11.1	F-174/B-11.1	F-298/B-11.1	F-462/B-11.8
SR 12 / Randolph Ave	E-450/A-9.7 ^f	E-48.2/A-9.8	F-54.8/B-10.0	F-62.4/B-10.1	F-67.7/B-10.2	F-78.0/B-10.5
SR 12 / Warm Springs Rd / Kenwood Winery	B-11.8 ^b	B-12.0	B-13.0	B-14.8	B-15.0	B-15.8

^a Where allowed by use permit

^b Signalized level of service—control delay (in seconds).

^c Side street stop sign controlled level of service—average control delay (in seconds). SR 12 eastbound left turn to Project Access driveway/ Project Access driveway southbound left turn to SR 12

^d Side street stop sign controlled level of service—average control delay (in seconds). Lawndale Road northbound approach/ SR 12 eastbound left turn to Lawndale Road.

^e Side street stop sign controlled level of service—average control delay (in seconds). SR 12 eastbound left turn to SR 12/ Adobe Canyon Road southbound left turn to SR 12

^f Side street stop sign controlled level of service—average control delay (in seconds). SR 12 westbound approach to Randolph Avenue/ Randolph Avenue northbound left turn to SR 12.

Sources: Year 2000 Highway Capacity Manual Operations Methodology & Crane Transportation Group

Volumes during the Friday and Sunday PM peak traffic hours would not be increased above signal warrant criteria levels with base case-plus-project-plus-project average size special event traffic at the SR 12 intersections with Lawndale Road, Adobe Canyon Road, or Randolph Avenue. This would be a less-than-significant impact.

Mitigation Measure 5.2-4 For SR 12/Adobe Canyon Road mitigation would be the same as Mitigation Measure 5.2-1(a)(2) and 5.2-1(b).

Significance After Mitigation With the road improvements to Adobe Canyon Road described in Mitigation Measure 5.2-1(a)(2) the impact during the Sunday PM peak hour would still be significant.

Responsibility and Monitoring For SR 12/Adobe Canyon Road responsibility and monitoring would be the same as Mitigation Measure 5.2-1(a)(1) and 5.2-1(b).

Impact 5.2-5 2012 Intersection Operation with Proposed Project and Average Size Special Event

The project increment (project average size special event traffic) of cumulative condition (year 2012-plus-project with average size special event traffic) would increase average control delay for critical movements by more than five seconds at the SR 12 intersections with Lawndale Road, Adobe Canyon Road and Randolph Avenue where base case conditions are at LOS F. This would be a significant cumulative impact.

Cumulative Condition (Year 2012-Plus-Project)-plus-Project with Average Size Special Event

Exhibits 5.2-33 and 5.2-34 show cumulative condition (year 2012 base case-plus-project)-plus-project with average size special event traffic impacts at major intersections along SR 12 for two time periods (Friday PM peak hour [5:00 to 6:00 PM] and Sunday PM peak hour [3:30 to 4:30 PM]) when project special event traffic would occur during periods of peak ambient traffic flow. The SR 12/Oakmont Drive, SR 12/Pythian Road and SR 12/Warm Springs Road signalized intersections would maintain acceptable LOS A, B, or C operation during both analyzed peak hours. This would be a less-than-significant impact.

The stop-sign-controlled SR 12/Lawndale Road, SR 12/Adobe Canyon Road, and SR 12/Randolph Avenue intersections would have approaches or turning movements operating at LOS F during special event peak hours, which would be a significant cumulative impact. The project average size special event volume would increase delay by more than five seconds. Therefore the proposed project's contribution would be cumulatively considerable.

Volumes during the Friday and Sunday PM peak traffic hours would not be increased above signal warrant criteria levels with cumulative-plus-project average size special event traffic at the SR 12 intersections with Lawndale Road, Adobe Canyon Road, or Randolph Avenue. This would be a less-than-significant impact.

Mitigation Measure 5.2-5

For SR 12/Adobe Canyon Road and SR 12/Randolph Avenue: Same as mitigation measure 5.2-1.

For SR 12/Lawndale Road: Widen Lawndale Road to provide a second northbound approach lane to SR 12 or signalize SR 12/Lawndale when warranted.

Significance After Mitigation With the improvements proposed in Mitigation Measures 5.2-1 and 5.2-5, the project's contribution to the cumulative impact would not be cumulatively considerable at Lawndale or Randolph but would still be cumulatively considerable at Adobe Canyon.

Responsibility and Monitoring Same as for Mitigation Measure 5.2-1.

Impact 5.2-6 Roadway Operation with Proposed Project and Average Size Special Event

Year 2005 and 2012 base case plus project plus project average size special event volumes would result in maintaining LOS E operation for all analyzed roadway segments during all analyzed time periods. The project's contribution would not result in a decrease in average vehicle speeds by 1.0 mile per hour or greater. This impact would be less-than-significant

Exhibits 5.2-10 and 5.2-11 show that in 2005 and 2012 the additional traffic from an average size special event at the proposed *Sonoma Country Inn* would not change the level of service of any analyzed roadway segment along SR 12 for either of the two peak traffic hours analyzed. Operation would remain LOS E for all roadway segments. SR 12 west of the project site, which would experience the greatest volume increases due to special events, would have travel speed decreased by no more than 0.2 miles per hour. East of the project site, travel speed would be decreased by zero to 0.1 miles per hour due to average size special event traffic.

Mitigation Measure 5.2-6 No mitigation would be required.

PROJECT WITH AVERAGE SIZE SPECIAL EVENT TRAFFIC IMPACTS TO LEFT TURN LANE STORAGE DEMAND ON THE EASTBOUND SR 12 APPROACH TO THE PROJECT ACCESS ROAD

Impact 5.2-7 Left Turn Lane Storage Demand on the Eastbound SR 12 Approach to the Project Access Road.

The project's proposed 375 foot long left turn lane on the SR 12 eastbound approach to the project access road would be adequate to accommodate project-plus-project with average size special event storage demand. This impact would be less-than-significant

The project applicant proposes to construct a 375-foot-long left turn lane on the eastbound SR 12 approach to the project access road. Exhibit 3.0-17 shows the proposed turn configuration at the SR/project access road intersection. This proposal is currently under review by Caltrans.³² The turn lane could accommodate at least 15 cars and would allow a significant amount of deceleration length. For an average size special event on a Friday evening, with a 42-vehicle left turn demand during the hour prior to the event, about one-third of the entire hourly left turn inbound event total could be accommodated in this lane at any given time.

³² A letter dated June 19, 2001 from Caltrans District Branch Chief Jean C.R. Finney to Paula Stamp, PRMD, states that "the proposed driveway and left turn channelization must be designed according to the standards in the Highway Design Manual" and "more technical comments about design and capacity specifications of the left -turn lane will be made in the encroachment phase of this project."

The number of vehicles that would queue in the left turn lane waiting to turn into the project site would be a function of the left turn demand and the opposing flow.³³ Exhibit 5.2-35 shows a summary of the

**EXHIBIT 5.2-35
 LEFT TURN MOVEMENTS INTO SONOMA COUNTRY INN AND OPPOSING
 NORTHBOUND FLOW ON SR 12 DURING HOURS OF PEAK INBOUND FLOW TO
 SPECIAL EVENTS**

	Year 2005 – Friday Average Size Event		Year 2012 – Friday Average Size Event	
Time	Southbound Left Turns	SR 12 Northbound Volume	Southbound Left Turns	SR 12 Northbound Volume
5:30 - 6:30 PM	36	936	36	1068

Source: Crane Transportation Group

expected year 2005 and 2012 volumes turning left into the project site and the opposing westbound flow on SR 12 for the hour of peak inbound traffic flow to an average size special event at the *Sonoma Country Inn*. These projections also include regular non-special event guests of the inn, restaurant patrons, and residents who would continue to access the site during special events.

Based upon methodology contained in a recent ITE Journal which determines vehicle queues on the approaches to unsignalized intersections,³⁴ the 95th percentile back-up queue demand would never exceed three vehicles (maximum 75 feet) in the SR 12 eastbound left turn lane to the project access road during this peak inbound flow demand hour. The proposed 375-foot long left turn lane would be adequate to accommodate this projected demand.

Mitigation Measure 5.2-7 No mitigation would be required.

**SR 12 OPERATING CONDITIONS WITH CUMULATIVE AVERAGE SIZE SPECIAL EVENTS IN
 PROGRESS AT SONOMA COUNTRY INN AND OTHER NEARBY WINERIES**

An evaluation has been conducted of SR 12 roadway and intersection operating conditions during the Sunday afternoon peak traffic hour should average size special events be scheduled at the *Sonoma Country Inn* and all other nearby wineries or facilities (as allowed by use permit). Analysis has been conducted for Sunday afternoon event conditions only with all facilities assumed to have peak inbound flows from 11:30 AM to 12:30 PM and peak outbound flows from 3:30 to 4:30 PM.

³³ During the surveyed August 2000 Saturday evening special event at Chateau St. Jean (with 500 attendees), up to four vehicles maximum were observed (four different times) waiting to turn left from SR 12 into the Chateau St. Jean driveway. During the hour of maximum inbound flow to this event (5:30-6:30 PM), there were 117 southbound left turns into the Chateau St. Jean driveway and 563 westbound vehicles on SR 12. About 37 percent of all left turns into Chateau St. Jean occurred during one 15-minute time period.

³⁴ ITE Journal, November, 2001 by the Institute of Transportation Engineers. Young Consultant’s Award Paper: Estimation of Maximum Queue Lengths at Unsignalized Intersections.

In addition to the proposed *Sonoma Country Inn* project, the following existing, approved, or proposed facilities were identified near the project site that could have special events.³⁵ They are:

- x Sonoma Flower Company - SR 12 access via a driveway located west of Oakmont Drive
- x Mobius Painter Winery - SR 12 access via a new driveway connection directly opposite Oakmont Drive
- x Ledson - SR 12 access between Oakmont Drive and Pythian Road
- x Landmark Winery - SR 12 access via Adobe Canyon Road
- x St Francis Winery - SR 12 access via an existing driveway directly opposite Chateau St. Jean
- x Chateau St. Jean Winery - SR 12 access between Adobe Canyon Road and Randolph Avenue
- x Las Ventanas Sonoma - SR 12 access via Chateau St. Jean Driveway (between Adobe Canyon Road and Randolph Avenue)
- x Korbel (Kenwood Winery) - SR 12 access via an existing driveway connection opposite Warm Springs Road
- x St. Francis Winery & Vineyards - SR 12 access via Pythian Road

Exhibit 5.2-36 shows project trip generation from an average size special event and Exhibit 5.2-37 shows the expected number of people at an average sized event at each of the above facilities.

**EXHIBIT 5.2-36
 PROJECT TRIP GENERATION – PROJECT AVERAGE SIZE SPECIAL EVENT**

Total # People Average Event	Friday^a			Sunday^b		
	Total # Autos	Vehicles Entering - PM Peak Hour Before Event (5:00-6:00)		Total # Autos	Vehicles Departing - PM Peak Hour After Event (3:30-4:30)	
		Inbound	Outbound		Inbound	Outbound
100 ^c	45	32	0	37	0	26

Crane Transportation Group conducted special event surveys at the nearby Chateau St. Jean Winery in August 2000 where survey data indicated:

- ^a on a Friday evening with an event starting at 6:00 PM, attendees would be expected arrive at a ratio of about 2.2 persons per car, with about 70 percent of total cars entering the project site between the 5:00-6:00 PM peak hour, and
- ^b on a Sunday with an event starting at 12:00 noon and ending at 3:30 or 4:00 PM, attendees would be expected to arrive at a ratio of about 2.7 persons per car, and about 70 percent of the total event-related vehicles would leave the site during the Sunday afternoon peak hour (3:30 - 4:30).
- ^c The applicant estimates an “average size “ event at 100 attendees.

Source: Crane Transportation Group

³⁵ Crane Transportation Group conversations with Paula Stamp, Sonoma County Permit and Resource Management Department, April and May 2002.

Impact 5.2-8 SR 12 Operating Conditions with Cumulative Average Size Special Events

Cumulative event traffic volumes would result in significant additional delays at the Randolph Avenue, Adobe Canyon Road, and Lawndale Road SR12 intersections operating at LOS F. This would be a cumulative significant impact. The project impact would be cumulatively considerable.

Years 2005 and 2012

Based upon expected average size events, Exhibit 5.2-37 shows the expected post-event outbound flow traffic volumes at each facility (which would occur during the peak traffic hour along SR 12 on a Sunday afternoon). Automobile occupancy of 2.7 people per vehicle and 70 percent arrival/departure within the peak traffic hour (as found through surveys conducted at Chateau St. Jean) have been utilized to project traffic flows from each facility. Traffic flow patterns (west-east along SR 12) as found at the Chateau St. Jean surveyed special event have also been used to distribute special event traffic from the other facilities. Exhibits 5.2-38 and 5.2-39 show the resultant average size special event traffic volumes along SR 12 for year 2005 and 2012 conditions.

Exhibit 5.2-34 shows year 2005 and 2012 Sunday post-event intersection operating conditions with average size special events in progress at all of the existing, approved, or proposed facilities identified near the *Sonoma Country Inn* project site (see list above). Exhibit 5.2-11 shows year 2005 and 2012 Sunday post-event roadway operation for the same conditions.

As shown in Exhibit 5.2-11, the SR 12 signalized intersections with Oakmont Drive, Pythian Road and Warm Springs Road would maintain acceptable LOS A, B, or C operation during year 2005 or 2012 analysis periods. The stop-sign-controlled SR 12/Lawndale Road, SR12/Adobe Canyon Road and SR 12/Randolph Avenue intersection approaches or turning movements operating at LOS F would experience large increases in average control delay due to average size special event-generated traffic. This would be a cumulative significant impact and the project's contribution would be cumulatively considerable because it would result in over five seconds delay at intersections. As stated in Impacts 5.2-2 and 5.2-5, project traffic would make a cumulatively considerable contribution to significant cumulative impacts at the Randolph Avenue, Adobe Canyon Road and Lawndale Road intersections.

Volumes would not be increased above rural peak hour signal warrant criteria levels with the addition of cumulative special event traffic at the SR 12 intersection with Lawndale Road. Randolph Avenue would already meet warrants without event traffic in 2012. At the SR 12/Adobe Canyon Road intersection, volumes would meet rural signal warrant criteria levels due to cumulative event traffic.

As shown in Exhibit 5.2-11, all analyzed segments of SR 12 would operate at LOS E during the post-event peak traffic hour. Traffic from average size special events at all local facilities would decrease travel speeds along SR 12 by about two miles per hour north of Oakmont Drive, by about two miles per hour between Oakmont Drive and Pythian Road, by about 1.7 miles per hour between Pythian Road and the project access road, and just over one mile per hour between Adobe Canyon Road, and Randolph Avenue. The proposed project's contribution to the cumulative impact would not be cumulatively considerable because the change in average speed due to the project traffic impact would be only 0.2 to 0.4 mph. As stated in Impact 5.2-6, project traffic would make a cumulatively considerable contribution to significant cumulative impacts at the Randolph and Adobe Canyon intersections.

Mitigation Measure 5.2-8 Installation of traffic signals at the Randolph Avenue, Adobe Canyon Road and Lawndale Road intersections would reduce the cumulative impact at these intersections to less-than-significant. However, signal installation may not be a feasible mitigation due to lack of funding, and because Caltrans may not conclude that signals are warranted. The County may wish to consider the

EXHIBIT 5.2-37

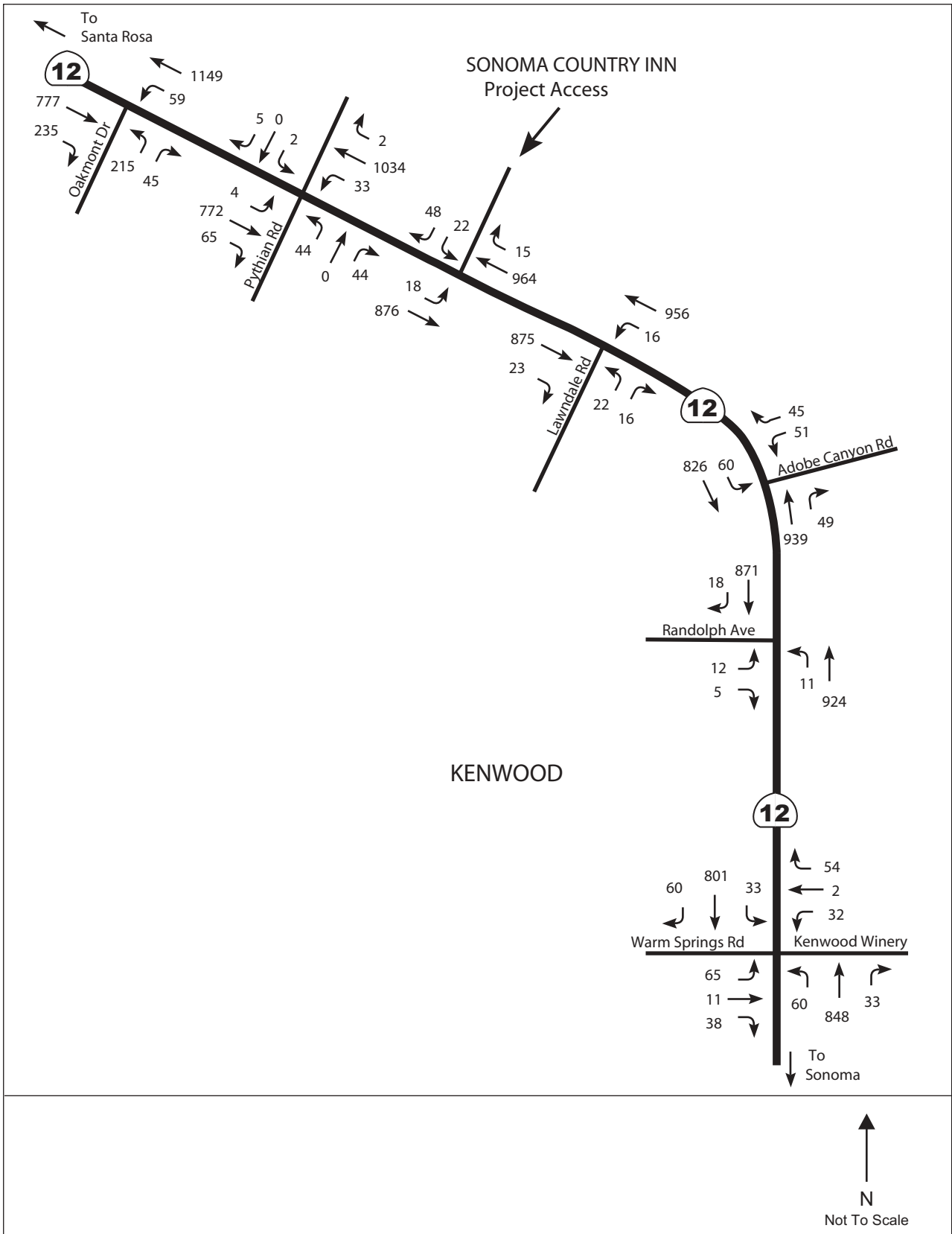
CUMULATIVE SPECIAL EVENT TRIP GENERATION – AVERAGE SIZE WEEKEND EVENTS ^a AT WINERIES/FACILITIES ALONG SR 12 FROM SANTA ROSA TO SOUTH OF KENWOOD

<i>Facility</i>	<i>Total # People Average Event</i>	<i>Total # Autos</i>	<i>Vehicles Departing Peak Hour After Event 3:30-4:30 pm (70% of total)</i>
Sonoma Flower Company	120	45	32
Mobius Painter	175	65	46
Ledson	375	139	98
Landmark	50	19	14
St. Francis (former site)	100	37	26
Chateau St. Jean	200	74	52
Las Ventanas	100	37	26
Korbel (Kenwood Winery)	100	37	26
St. Francis	100	37	26

^a where allowed by use permit

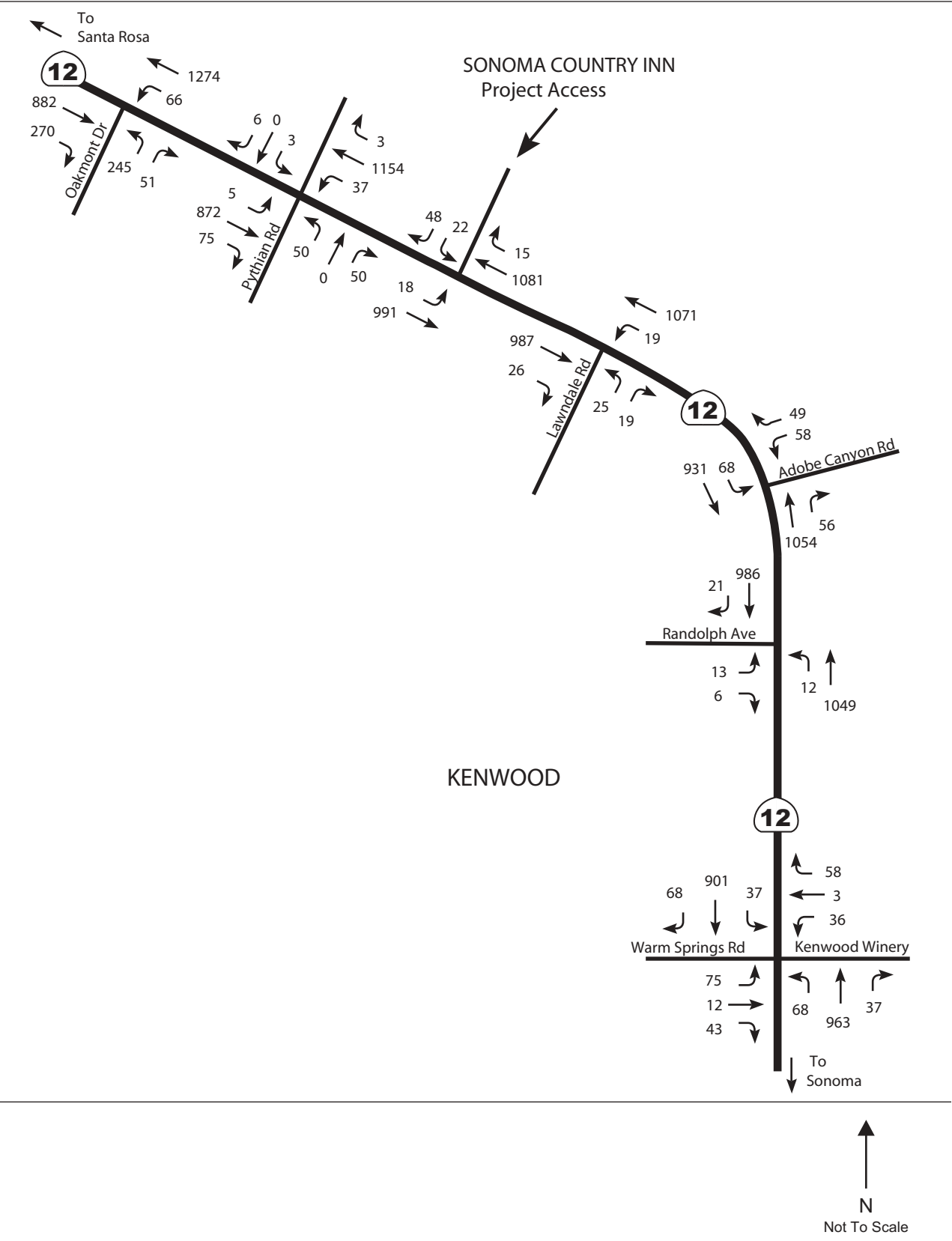
Sources: Project List and Event Size from Sonoma County Department of Permit & Resource Management Development., based on use permits on file with the County of Sonoma. Trip Generation from Crane Transportation Group based upon 2.7 people/vehicle auto occupancy determined for average size weekend afternoon event at nearby Chateau St. Jean Winery.

EXHIBIT 5.2-38
YEAR 2005 BASE CASE + PROJECT VOLUMES
+ AVERAGE SIZE SPECIAL EVENTS AT ALL AREA WINERIES - SUNDAY PEAK HOUR



Source: Crane Transportation Group

EXHIBIT 5.2-39
YEAR 2012 BASE CASE + PROJECT VOLUMES
+ AVERAGE SIZE SPECIAL EVENTS AT ALL AREA WINERIES - SUNDAY PEAK HOUR



Source: Crane Transportation Group

following mitigation measures as a way to minimize cumulative impacts to SR 12 operating conditions due to special event traffic.

Mitigation Measure 5.2-8(a) Until the events coordination program in Mitigation Measure 5.2-8(b) below is established, the project's proposed 30 annual events shall be restricted to weekdays (Monday –Friday during non-peak traffic hours) and/or non-timed events such as food and wine pairings on the site.

Weddings, banquets, auctions, concerts and other time-specific events would only be permitted on Monday-Friday during non-peak traffic hours.

Mitigation Measure 5.2-8 (b) Establish a program to allocate days and times of special event operation for future use permit applicants. The applicant shall contribute a fair share towards the cost of establishing and maintaining the program. The program may be established by the County or at the County's direction, and may include but not be limited to the following parameters:³⁶

- (1) Develop a database of dates, times, attendance, and volume of traffic (inbound and outbound-by hour) for currently-permitted events;
- (2) Determine the traffic capacity of State Highway 12 and other affected roadways in the vicinity during currently-permitted events and the amount of remaining capacity (if any) available for future events;
- (3) Establish the boundaries (e.g., the two-lane section of SR 12) where the program would apply;
- (4) Define performance standards (e.g., acceptable traffic levels, possibly varying by season and/or day of week and/or time of day) for the program.
- (5) Designate an Events Coordinator to administer the program.
- (6) Allocate the number, attendance, and times of newly-permitted events and monitor to ensure performance standards are met.
- (7) Designate a traffic consultant to prepare periodic reports on whether the performance standards have been met and any problems or recommendations.

The Events Coordination program described above would be a new enterprise for the County. Current and anticipated resources do not allow for any staff or budget to implement the program described. This program could be funded through a fair share contribution of the event venues, either as a permit condition or voluntary program. A consultant could be hired to implement the program, to contact the event venues and compile the event information. A traffic engineer would be needed to establish performance standards.

It should be noted that properties with approved use permits for events would not be subject to the coordination program unless a modification of each use permit is proposed. It may be possible to involve such event venues on a voluntary basis.

³⁶ The program could also use innovative ways of controlling traffic levels on affected roadways including but not limited to busing some event attendees, alternate timing of events, staggering arrival and departure of event guests, voluntary program participation, etc.

The implementation of this mitigation would not reduce the cumulative impact to a less-than-significant level.

Alternative Mitigation Measure 5.2-8(c) As an alternative to the County establishing a program to schedule special events the following measures would be required to reduce the impact to SR 12 operating conditions with cumulative average size special events:

- (1) Widen SR 12 to four lanes (two lanes each direction) plus left turn lanes at all major roadway and driveway intersections from Santa Rosa to south of Kenwood. Require funding participation by all new facilities (and by existing facilities seeking use permits) contributing traffic to the SR 12 corridor.
- (2) Signalize the SR 12/Adobe Canyon Road intersection when warranted.

Significance After Mitigation

Implementation of Mitigation Measure 5.2-8(a) would remove any peak hour contribution from proposed project events to the significant cumulative impact.

Implementation of Mitigation Measure 5.2-8(b) may or may not reduce cumulative condition to a less-than-significant level. This would have to be determined based upon a quantified study to measure event traffic impacts based upon the County's Traffic Impact Thresholds of Significance Criteria. For example, with roadway cumulative peak hour operation at LOS E as is the case for SR 12, event traffic would have to decrease travel speeds by less than 1 mile per hour to be considered less-than-significant.

Implementation of Alternative Mitigation Measure 5.2-8(c) would reduce cumulative impacts to a less-than-significant level. As discussed in the setting section above and as stated in the Initial Study for this project “the citizens of Sonoma Valley have continuously strongly opposed construction of a freeway type system and/or modifications to the highway (State Route 12) that would affect the rural, scenic character of the valley”.³⁷ It is likely that the alternative mitigation measures would be strongly opposed and therefore may not be feasible.

In regard to the feasibility of mitigation measures it would be the responsibility of the County of Sonoma decision-makers (Planning Commission and Board of Supervisors) to determine whether Mitigation Measure 5.2-8 is feasible. To determine that the mitigation is not feasible the decision makers would need to make a finding that “specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation”.³⁸

Responsibility and Monitoring Sonoma County would be responsible to implement and manage mitigation measure 5.2-8(a) and (b). The County would be responsible for collecting funds and administering the program to control special event traffic.

³⁷ *Environmental Checklist Form Sonoma Country Inn, op. cit.*

³⁸ See Public Resources code section 21081 regarding the necessary findings when an EIR identified one or more significant effects.

PROJECT ACCESS ROAD IMPACTS

Impact 5.2-9 Project Access Road Intersection Impacts

The SR 12/project access road intersection southbound left turn to SR 12 would operate at LOS F conditions for all with-project 2005 and 2012 time periods analyzed. However, this would not be considered a significant impact because it would be a low-volume road as described in significance criteria XI.

The project access road would connect to SR 12 at the existing location of the site access intersection, approximately 300 feet west of Lawndale Road. As part of the proposed project, SR 12 would be widened to provide a 375 foot long eastbound left turn lane and a 320 foot long westbound right turn lane on the intersection approaches to the project access road. The project access road would be widened and striped to provide separate 300 foot long right and left turn lanes on the approach to SR 12. It would be stop-sign-controlled at SR 12.

The SR 12/project access road intersection southbound left turn to SR 12 would operate at LOS F conditions for all with project 2005 and 2012 time periods analyzed. This would not be considered a significant impact because the access road would be a low volume road as described in significance criteria XI.

Mitigation Measure 5.2-9 No mitigation would be required.

Impact 5.2-10 Roadway Hazards

The proposed roadway system would comply with County roadway standards. This impact would be less-than-significant.

The proposed development plan (see Exhibit 3.0-7) and tentative map (see Exhibit 3.0-8) shows two road sections (Road A and Road B) and a driveway section.

Access to the *Sonoma Country Inn* project would be provided by a 20- to 22-foot wide roadway, designated Road A. Road A would extend from SR 12 for slightly over one mile north (about 5,500 feet) through the site. It would terminate at residential lot 7.³⁹ Road A would have two foot wide paved shoulders on both sides and a six to eight foot wide pathway (public trail) along the west side. Road B, a 20-foot wide roadway with two-foot wide paved shoulders on both sides, would connect to Road A at residential lot 5, approximately 0.85 miles north of the site entrance. Road B would extend approximately one-quarter mile east of Road A and terminate at residential lot 10.

Visitor access to the winery area (including the tasting room, country store and events pavilion) would be via a 12- to 18-foot wide driveway two-foot shoulders on each side. Visitor access would lead to a circular “motor court” in front of the entry pavilion and provide access to parking spaces serving the store and winery/events structures. A 22-foot wide staff/service driveway would intersect Road A approximately 500 feet north of the visitor access. It would connect to driveways serving winery/events

³⁹ The project application site plan defines Road A as 22 feet wide, however, Merrill Van Fleet, the applicant’s engineer, has revised the roadway width in some areas, as stated in a memorandum dated June 20, 2002 to Tim Mayer and Paula Stamp as follows: “Detail A should be modified to allow a pavement reduction to 20 feet in certain areas adjacent to the watercourse to allow more effective use of available space and to limit the height of cut banks. Access Road Section “B” in the body of Addendum #2 is illustrative of this change.”

overflow parking areas, staff parking areas, maintenance buildings, and winery service yard. A driveway would link the staff service areas to driveways serving visitor parking areas.

Primary access to the inn/spa/restaurant would be via a 20 foot wide roadway with two foot wide paved shoulders (also labeled Road B) intersecting Road B about 600 feet east of Road A. Two 18-foot wide driveways, also providing access to the inn/spa/restaurant, would extend from Road B. The westernmost driveway would intersect Road B about 100 feet from the Road A/Road B intersection, while the northernmost driveway would intersect Road B near its terminus at residential lot 10. The inn/spa/restaurant would be served by 12 to 18 foot wide driveways winding through the complex, providing access to the inn's main house, cottages, spa, and parking areas.

A third road detail, designated Road C, is proposed in a June 20 memorandum from the applicant's engineer to Sonoma County PRMD staff. This roadway would extend "from the end of Road A, northerly and easterly across lots 5, 6 and terminating at lot 7. This road will have a paved width of 18 feet and [will have] 2 foot shoulders." A path would be located "either westerly and northerly of the pavement or easterly and southerly of the pavement. Location of the path on the easterly and southerly side of the pavement will necessitate a crossing of the access road by the path dedication."⁴⁰

Individual house lots, located in the northern portions of the site, would be accessed via 12 to 18-foot wide driveways connecting to Roads A and B.

All roadways and driveways would conform to the County's minimum standards for width, shoulder area and grade. No roadway or driveway would exceed a 15 percent grade.

Mitigation Measure 5.2-10 No mitigation would be required.

Impact 5.2-11 SR 12/Project Access Road Intersection Safety Impacts

Potential safety concerns for SR 12 vehicles slowing to turn into the project site would be less-than-significant.

Due to the existing high speeds (65 miles per hour) observed along SR 12 at the project access road, there would be safety concerns for SR 12 eastbound vehicles slowing to turn left into the site as well as for SR 12 westbound vehicles decelerating before turning right into the site (i.e., potential for rear-end accidents between vehicles slowing to turn and high-speed through vehicles). The project has addressed this issue by proposing to construct a 375 foot long eastbound left turn lane and 320 foot long westbound right turn lane on the SR 12 approaches to project access road. As stated, existing sight lines are unconstrained for inbound and outbound vehicles turning at the SR 12/project access road intersection. The project would not introduce obstructions to sight lines at this intersection.

Mitigation Measure 5.2-11 No mitigation would be required.

⁴⁰ Memorandum from Merrill Van Fleet to Tim Mayer and Paula Stamp, June 20, 2002.

Impact 5.2-12 Internal Pedestrian Access

Internal pedestrian access impacts would be less-than-significant.

Pedestrian pathways would be located throughout the winery area and the inn/spa/restaurant area. They are proposed to be surfaced by “natural path material like decomposed granite.”⁴¹ A shuttle would be provided between the winery and inn areas for guest and employee use.⁴²

Mitigation Measure 5.2-12 No mitigation would be required.

Impact 5.2-13 Emergency access

The absence of secondary emergency access to the site raises a safety concern. The County's requirement that all new residential dwellings and commercial buildings include fire sprinklers would make this a less-than-significant impact.

The Sonoma County Department of Emergency Services has reviewed the site plan and provided vegetation management, modification and maintenance findings to minimize fire hazards on the site. The Department acknowledges the lack of secondary access to the site in its review of on-site roadways. County standards for residential roadways impose a one-mile limit on the length of a cul-de-sac roadway. Residential roadways longer than one mile must have a secondary access road connection. The County considers the project access road to be a “commercial” road, and notes that there is no established maximum length in the County’s fire safety standards for commercial roads. On February 25, 2003, the Sonoma County Board of Supervisors adopted an upgraded fire sprinkler ordinance that will require fire sprinkler systems in all new residential dwellings and in all new commercial buildings within the unincorporated areas of the County. With the provision of fire sprinkler systems in all residential units and in other buildings on the project site this impact would be less-than-significant.

Mitigation Measure 5.2-13 No mitigation would be required.

Impact 5.2-14 Parking Supply

The proposed parking supply would be adequate for expected parking demand, a less-than-significant impact. The layout of the winery does not, however, show the horse trailer parking. This would be a significant impact.

A total of 249 parking spaces would be provided for the inn/spa/restaurant and winery (including the events pavilion).

A total of 102 parking spaces would be provided for the inn/spa/restaurant. Thirty-six spaces would be clustered west of the inn’s main house and south of the hotel spa. Five parking areas with a total 66 spaces would be located near the cottages and the inn’s main house. All would have access via internal driveways.

⁴¹ Addendum #2 to the Sonoma Country Inn Project, February 2002, *Landscape, Design and Site Lighting Concept Statement*.

⁴² Crane Transportation Group conversation with Mike Morrison, Common Ground Land Planning Services, (Applicant’s representative), July, 2002.

Parking for the winery would consist of 147 spaces, and would include parking for visitors, inn and winery area employees, and public trail parking. A cluster of 12 spaces would serve the general store (public wine tasting room), a 45-space lot would serve the winery/events pavilion, 19-space and 11-space lots would be provided for winery/events pavilion overflow parking, and a 60 space lot would be provided for employee parking. A shuttle would be available for inn/spa/restaurant employee transport to and from the winery and events pavilion employee parking lot.⁴³ Parking for the public trail (12 parking spaces for automobiles) would be designated in the winery parking lot.

Expected Parking Demand

In order to determine project parking demand the EIR traffic analyst conducted interviews with the project applicant's representative to determine a maximum activity period for all components of the project.⁴⁴ Exhibit 5.2-40 shows a Sunday noon to midnight projection of employee and non-employee parking demand during a theoretical day with two maximum size special events (occurring 12:00 to 3:30 PM and 6:00 to 11:00 PM), 100 percent inn occupancy, wine tasting and country store in operation, and outside visitor use of the spa (by appointment) and restaurant (by reservation). As shown, as much as 72 percent of on-site parking would be expected to be in use at any one time. During this time period, 69 parking spaces would remain available (unoccupied). Thus, the proposed parking supply is considered to be sufficient to accommodate all activities that might occur at any one time on the project site.

The layout of the winery does not, however, show the horse trailer parking (see Exhibit 3.0-15). Because the proposed horse trailer spaces would require parking space allocation beyond that of standard size vehicles (to be able to maneuver in and out of parking areas), as well as parking spaces sized to accommodate a vehicle plus trailer, adequate space for public trail use is in question. This is a potentially significant impact.

Mitigation Measure 5.2-14 In the final map the parking lot plan for the winery trail use area shall be revised to designate space for horse trailers.

Significance After Mitigation Implementation of 5.2-14 would reduce the impact to a less-than-significant level.

Responsibility and Monitoring The applicant would be responsible to redesign the parking lot plan to incorporate the trail designated parking. County staff would be responsible to review the adequacy of the revised parking lot layout. Final map approval shall be conditioned upon County PRMD approval of the parking layout.

Impact 5.2-15 Road Hazards

Project construction could result in off-site parking and spills along construction routes. This would be a significant impact.

Construction traffic would consist of construction workers, haul trucks, and earthmoving equipment associated with initial site grading and construction of the onsite roads and infrastructure. Building

⁴³ *Ibid.*

⁴⁴ Crane Transportation Group conversation with Ed Nagel and Mike Morrison, Common Ground Land Planning Services, (Applicant's representatives), July 2002

EXHIBIT 5.2-40

SUNDAY PARKING DEMAND NOON TO MIDNIGHT ^a

	Noon- 1:00PM	1:00- 2:00	2:00- 3:00	3:00- 4:00	4:00- 5:00	5:00- 6:00	6:00- 7:00	7:00- 8:00	8:00- 9:00	9:00- 10:00	10:00- 11:00	11:00- Midnight
Employees												
Spa	11	11	10	14	12	7	7	7	6			
Restaurant/Bar	10	10	13	7	7	10	7	7	7	7	7	7
Wine Tasting/Retail	2	2	2	2	2	2						
Admin	2	2	2	2	2	2						
Housekeeping	15	15	15	17	14	12	10	7	7	7	4	2
Maintenance/Groundskeepers	6	3	3	5	4	4	2	2	2	2	2	3
Bellmen/Valet	4	4	4	6	6	5	5	5	5	5	5	5
Special Event Employees	9	9	10	11	5	10	10	10	10	10	10	10
Non-Employees												
Guests (50 units occupied)	35	25	20	20	20	25	30	35	40	45	47	50
Restaurant Patrons: use by non-guests	6	5	3			2	5	7	7	4		
Spa Patrons: use by non-guests	2	2	2	2	2	2	1	1				
Winery/Tasting Room/Retail Sales	4	5	5	4	2							
Special Event Guests	74	74	74	74	10	50	74	74	74	74	64	10
<i>TOTAL W/O SPECIAL EVENT</i>	<i>97</i>	<i>84</i>	<i>82</i>	<i>85</i>	<i>79</i>	<i>71</i>	<i>67</i>	<i>74</i>	<i>74</i>	<i>70</i>	<i>65</i>	<i>62</i>
<i>TOTAL W/SPECIAL EVENT</i>	<i>180</i>	<i>167</i>	<i>166</i>	<i>164</i>	<i>89</i>	<i>131</i>	<i>151</i>	<i>158</i>	<i>158</i>	<i>154</i>	<i>139</i>	<i>82</i>

^a Theoretical day for the purpose of testing parking supply during two time periods on a Sunday. Two maximum size Special Events are shown, one starting at 12:00 noon and ending at 3:30 PM, and the second at starting at 6:00 PM and ending at 11:00 PM. The applicants state that two special events would not be scheduled on the same day.

Source: Crane Transportation Group/Project Applicant

construction would result in truck trips for delivery of building materials. Off-site parking (i.e., such as along SR 12) or spills and debris on the highway would be considered a significant impact.

Mitigation Measure 5.2-15 The applicant shall be responsible for preparing a construction traffic and parking control program to be carried out during applicant implemented development. The program shall include the following elements:

- (1) Prohibit parking of construction vehicles anywhere other than on-site.
- (2) Plan for clean-up of any spills or debris along the construction truck delivery route.

Significance After Mitigation Implementation of Mitigation Measure 5.2-15 would reduce the impact to a less-than-significant level.

Responsibility and Monitoring The applicant would be responsible for preparing a construction traffic and parking control program. The applicant would implement the program. County staff would be responsible for monitoring implementation of this measure.

5.3 HYDROLOGY AND WATER QUALITY

Hydrology and Water Quality – The Setting

WATERSHED BOUNDARIES

The project site is contained within two subwatersheds of the upper Sonoma Creek watershed. Sonoma Creek is located within the San Pablo Basin, as defined by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). The Sonoma Creek watershed (170 square miles) is roughly rectangular in shape, and stretches about 25 miles from north to south, and ten miles from east to west at its widest point. The watershed is bounded by the Petaluma River watershed to the west, the Napa River watershed to the east, and the Russian River watershed to the north. The headwaters of Sonoma Creek lie northeast of the project site, in Sugarloaf Ridge State Park. Sonoma Creek flows south to San Pablo Bay; it enters the bay through a network of sloughs that have been highly modified by dredging, levees, and realignment over the past 150 years.¹

The two subwatersheds that contain the project site cover a total area of 1,050 acres (1.6 square miles). Exhibit 5.3-1 shows the project site's subwatershed and drainage boundaries and ephemeral "blue line" streams shown in the USGS 7.5-minute topographic map. The western-most subwatershed ("Subwatershed 1") contains an unnamed, minor ephemeral stream. For the purposes of this EIR, this stream is referred to as "Graywood Creek". The drainage area of Subwatershed 1 is approximately 500 acres (0.78 square miles).² The west fork of the creek begins in the steep hillside, northwest of the project site; its confluence with the east fork is near the western boundary of the *Sonoma Country Inn* project site, just west of residential lot 4. The east fork of Graywood Creek begins in the proposed Sonoma Ceanothus Preserve, near the northwestern project site boundary; it flows through residential lots 6, 7, and 11, the inn parcel (Parcel B), and the proposed Brodiaea Preserve before its confluence with the west fork. The main channel of Graywood Creek begins at the confluence of the east and west forks, eventually leaving the project site near the southern-most valley floor/plateau area. The drainage areas of the east and west forks are referred to as "Drainage 1a" and "Drainage 1b", respectively. Smaller seasonal drainages, not shown on the USGS map, but delineated during site visits by the applicant's consultants are shown in Exhibits 5.6-1 and 5.6-2; these seasonal drainages are located in the lower portion of Drainage 1b. Graywood Creek enters Mt. Hood Creek, at a point directly north of Indian Springs Road, between Lawndale Road and Hoff Road. The confluence of Mt. Hood Creek and Sonoma Creek is approximately 1,000 feet downstream of where Graywood Creek enters Mt. Hood Creek. The eastern-most subwatershed ("Subwatershed 2") contains small, seasonal drainages and a section of Sonoma Creek (where it flows along Adobe Canyon Road). This

¹ *Summary of existing information in the watershed of Sonoma Valley in relation to the Sonoma Creek Watershed Restoration Study and recommendations on how to proceed*, L. McKee, et al. Report prepared by San Francisco Estuary Institute (SFEI) and Sonoma Ecology Center (SEC) for U.S. Army Corps of Engineers, San Francisco District, San Francisco District. San Francisco Estuary Institute, December 2000.

² According to the Sonoma County Water Agency, a minor waterway has a drainage of one square mile or less; a major waterway has a drainage area of greater than four square miles.

EXHIBIT 5.3-1

subwatershed has an area of approximately 550 acres (0.85 square miles). Most of the seasonal drainages occur along the steeper hillsides in the upper portion of the subwatershed, and are not within the boundaries of the project site. These drainages eventually empty into the section of Sonoma Creek contained within the subwatershed boundaries. Only one of the seasonal drainages in Subwatershed 2 (“Drainage 2a”) is located on the project site. Drainage 2a begins on residential lot 9, and flows along the boundary between residential lot 8 and the inn parcel (Parcel B) before becoming undefined in the flatter, downgradient slopes.

TOPOGRAPHY

Elevations on the project site range from approximately 425 feet above mean sea level (msl) on the southern end of the site, to approximately 1,250 feet msl at the northern end of the project site. The site can be divided into three main topographically distinct areas (see Exhibit 3.0-5). The southern part of the project site is relatively flat to gently sloping (less than five percent), with elevations ranging between 425 feet msl near the highway, to 520 feet msl at the base of the hillside. The central area is composed of very steep slopes (30 to 65 percent) that rise from the valley floor to a plateau at an elevation of 720 feet msl to 760 feet msl. Slopes in the area of the plateau are less than five percent. The northern area consists of slopes rising steeply (25 to 45 percent) to a ridge top, at an elevation of approximately 1,250 feet msl. The slopes generally run to the south-southeast.

CLIMATE

The climate within the project vicinity is Mediterranean, typified by dry, warm summers and cool, wet winters. The nearest and most climatically similar climate station to the project site is located in Sonoma, approximately 11 miles southeast of Kenwood. For the period of record (February 1952 to December 2000), the total annual average rainfall in the project vicinity is 29.9 inches, with most of the rainfall occurring during the months of November through March.³ Exhibit 5.3-2 summarizes the mean monthly rainfall for the period of record. The highest recorded annual rainfall was 63.5 inches (1983), while the lowest annual rainfall was 11.3 inches (1976). The maximum daily rainfall for the period of record occurred on January 4, 1982, when 6.75 inches fell. No snowfall has been recorded in the project vicinity for the period of record. The mean annual actual evapotranspiration is approximately 15 inches per year.⁴

³ *Sonoma, California. Period of Monthly Climate Summary*, Western Regional Climate Center, 2000.

⁴ *Climate of Sonoma County*, U.S. Department of Commerce, Weather Bureau, C.R. Elford, 1964.

EXHIBIT 5.3-2
MEAN ANNUAL RAINFALL (1952-2000)

Month	Rainfall (in)
January	6.72
February	5.39
March	4.04
April	1.85
May	0.70
June	0.27
July	0.04
August	0.11
September	0.33
October	1.59
November	3.99
December	4.82
Total	29.85

Source: *Sonoma, California, Period of Monthly Climate Summary*, Western Regional Climate Center, 2000.

Average annual temperatures in the project vicinity range from a high of 74.0°F, to a low of 43.8°F. The highest and lowest temperatures ever recorded were 116°F (July 13, 1972), and 13°F (December 22, 1990), respectively.

EXISTING RUNOFF CONDITIONS

The rainfall runoff characteristics of a site are predominantly influenced by rainfall patterns, soil type, vegetal cover (vegetation), and surface conditions (for instance, the amount of paved surfaces and/or buildings). All of the drainages crossing the project site respond quickly to rainfall events. Flow in these channels rises quickly during and immediately following a rainfall event. Flow also recedes quickly as the storm passes.

Soils

The U.S. Department of Agriculture’s Soil Conservation Service (SCS), *Soil Survey of Sonoma County*⁵ was reviewed to determine which soil types are mapped on the project site. Five soils types are mapped on the project site: Forward gravelly loam (9-30 percent slope), Goulding clay loam (5-15 percent and 30-50 percent slope), Los Robles gravelly clay loam (0-2 percent slope), Kidd very rocky

⁵ *Soil Survey of Sonoma County*, United States Department of Agricultural (USDA), 1972.

loam (30 to 75 percent slope) and Red Hill clay loam (2-15 percent slope). Exhibit 5.3-3 summarizes the pertinent characteristics of these soils.

Exhibit 5.3-3
Soil Characteristics

Soil Type (Slope)	Symbol	Percent of Project Site	Hydrologic Group	Runoff Rate	Permeability	Erosion Hazard
Forward gravelly loam (9-30%)	FoE	9.4	C	medium-rapid	Moderate	moderate-high
Goulding clay loam (5-15%)	GgD	20.4	D	Medium	Moderate	moderate
Goulding clay loam (30-50%)	GgF	16.4	D	Rapid	NA ^a	high
Kidd very rocky loam (30-75%)	KkG	31.9	D	rapid-very rapid	NA ^a	high-very high
Los Robles gravelly clay loam (0-2%)	LuA	4.0	B	very slow	moderately slow	none-slight
Red Hill clay loam (2-15%)	RhD	17.9	B	Medium	NA ^a	Moderate

^a Information not available.

Source: *Soil Survey of Sonoma County*, United States Department of Agriculture, 1972.

The hydrologic grouping of a soil is based upon estimates of the soils' ability to intake water during the latter part of a long-duration storm (after the soil is wet and has had the opportunity to swell). The four groups, as presented in the *Soil Survey of Sonoma County*, are:

Group A - Soils with high infiltration rate when thoroughly wetted. These soils have a high rate of water transmission and a low runoff potential. They are deep, well drained or excessively drained, and consist primarily of sand, gravel, or both. No soils of this grouping are found on the project site.

Group B – Soils with a moderate infiltration rate when thoroughly wetted. These soils have a moderate rate of water transmission and a moderate runoff potential. They are moderately deep, well drained, and are medium textured to moderately coarse textured. Group B soils (LuA and RhD) account for approximately 21.9 percent of the soils on the project site. These soils are located on the valley floor in the southern part of the project site. The wastewater disposal fields, the winery, and a small portion of the residential subdivision (residential lot 1) are proposed in this area.

Group C - Soils with a slow infiltration rate when thoroughly wetted. These soils have a slow rate of water transmission and a high runoff potential. They have a layer that impedes downward movement of water, or they are moderately fine textured or fine textured, and have a slow infiltration rate. The only Group C soil (FoE) is mapped on 9.4 percent of the project site, in the most northerly corner of the site. No development is proposed in this area, as it is located within the proposed Sonoma Ceanothus Preserve.

Group D - Soils with a very slow infiltration rate when thoroughly wetted. These soils have a very slow rate of water transmission and a very high runoff potential. This group includes soils that are clay soils with high-shrink potential; clay soils with a permanent high water table; soils that have a claypan or clay layer near the surface; and soils that are shallow over nearly impervious material. Group D soils dominate the slopes leading up from the valley floor, the plateau, and steeper northerly sections of the project area. These soils account for 68.7 percent of the project site. The inn/spa/restaurant and a majority of the residences are proposed in this area.

Vegetation

The vegetation on the site consists of grassland with scattered oak trees on the valley floor, transitioning to conifers and assorted woodland on the slopes leading to and on the plateau. The plateau is mostly dominated by conifer woodland and scattered manzanita/chaparral. The steeper northerly slopes are primarily dense chaparral. The project site vegetation is currently composed of approximately 25 acres of grassland, 86 acres of woodland, and 70 acres of dense chaparral.

Surface Conditions

The only existing development on the project site is unpaved (dirt) roads. Based upon a recent aerial photo of the project site, approximately one and one-half miles of dirt road are located on the site and cover an area of roughly two acres.

Peak Discharge

The Rational Method was used to estimate existing peak discharge (flows) of project site runoff. The Rational Method determines the peak discharge of a watershed based upon the hydrologic conditions (time of concentration, drainage area, and the runoff coefficient). The time of concentration is the amount of time it takes for runoff to travel from the hydraulically most distant part of the watershed to the downstream point of interest (e.g., downstream of the project site). The times of concentration of Subwatershed 1 and Drainage 2a were calculated as 38 and 29 minutes, respectively. Rainfall intensity is determined from the time of concentration.

Peak discharges for a ten-year storm event on Sonoma Creek downstream of the project site are on the order of 3,295 cubic feet per second; at this discharge point, the drainage area of Sonoma Creek is 14.38 square miles.⁶ Exhibit 5.3-4 presents the estimated pre-development runoff coefficients and the calculated ten-year peak flows in the watersheds that would be impacted by the project development.

⁶ *Flood Insurance Study – Sonoma County, California – Unincorporated Areas*, Volume 1 of 4, United States, Federal Emergency Management Agency, April 1991.

EXHIBIT 5.3-4
PROPOSED PROJECT: PRE-DEVELOPMENT PEAK RUNOFF

Subwatershed	Runoff Coefficient	Rainfall Intensity^a	Drainage Area	10-year Peak Discharge
Subwatershed 1 (Graywood Creek)	0.22	1.05 in/hr	503 acres (0.78 sq. mi)	116 cfs
Drainage 2a (Subwatershed 2)	0.19	1.21 in/hr	40 acres (0.06 sq. mi)	9.2 cfs

a *Flood Control Design Criteria Manual for Waterways, Channels, and Closed Conduits*, Sonoma County Water Agency, 1983 revised.

Source: Questa Engineering

FLOODING

Flooding in the Sonoma Valley arises when intense short-duration rainfall occurs within longer-duration storm events.⁷ The flooding is generally of relatively short duration in the vicinity of the project site. The Federal Emergency Management Agency (FEMA) is responsible for mapping potential 100- and 500-year flood hazard zones throughout the U.S.⁸ Exhibit 5.3-5 shows the approximate location of the 100- and 500-year flood hazard zones. No 100- or 500-year flood hazard zones are mapped on the project site. Downstream of the project site, 100-year and 500-year flood hazard zones are mapped around Mt. Hood Creek and Sonoma Creek, and, most notably, impact sections of the town of Kenwood, and buildings along Hoff Road.

SURFACE WATER QUALITY AND BENEFICIAL USES

Surface Water Quality

No sampling data are available for the ephemeral streams in the project area. Also, little recent surface water quality data are available for Sonoma Creek.⁹ However, the Sonoma Creek Watershed is currently listed as an impaired watershed for nutrients (nitrate and phosphate), sediments, and pathogens (Clean Water Act 303d). Spring nitrate concentrations average 1.6 milligrams per liter, and are elevated during the summer and fall; nitrate concentrations in pristine watersheds average 0.11

⁷ *Summary of existing information in the watershed of Sonoma Valley in relation to the Sonoma Creek Watershed Restoration Study and recommendations on how to proceed, op. cit.*

⁸ The terms 100-year and 500-year floods are used to describe the estimated probability of a flood event occurring in any given year. For example, there is a one-in-100 (one percent) chance of a 100-year magnitude flood occurring in any given year.

⁹ *Summary of existing information in the watershed of Sonoma Valley in relation to the Sonoma Creek Watershed Restoration Study and recommendations on how to proceed, op. cit.*

EXHIBIT 5.3-5

mg-N/L.¹⁰ An increasing trend in phosphorus and phosphate levels in the lower Sonoma Creek watershed has been noted.¹¹ The main sources of these pollutants include agricultural runoff, construction and land development, and urban runoff.

Beneficial Uses

The State Water Resources Control Board and the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) have primary responsibility for the maintenance of water quality in the San Francisco Bay Region. The first comprehensive *Water Quality Plan for the San Francisco Bay Region* (Basin Plan) was adopted by the SFBRWQCB in 1975. Since that time, the SFBRWQCB has updated and amended the Basin Plan several times. The SFBRWQCB adopted the most current version of the Basin Plan in 1995. The Basin Plan is used by the SFBRWQCB as a regulatory tool and by other agencies for permitting and resource management.

The SFBRWQCB has the responsibility of protecting the beneficial uses of surface waters from pollution and nuisance that may be caused by waste dischargers. The goal of the Basin Plan is to define a program of actions that are designed to preserve and enhance water quality and to protect the beneficial uses of waters in the San Francisco Bay Region. Beneficial uses are identified in regional waters in order to assess which uses need to be protected from degraded water quality. From a water quality management standpoint, the most sensitive beneficial uses are municipal, domestic, and industrial water supply, recreation, and uses associated with the maintenance of resident and anadromous fisheries. The beneficial uses of Sonoma Creek, as recognized in the Basin Plan, are summarized in Exhibit 5.3-6.

STREAMBANK EROSION

The proposed winery location has relatively broad, shallow drainage channels that display very little evidence of incision and erosion. Terrain is slightly steeper along the flanks of the inn/spa/restaurant area. However, due to the presence of shallow, resistant bedrock the drainage channels are not deeply incised and display only limited erosion. Drainage channels within the residential lots display variable conditions of incision and erosion, depending on the terrain steepness and underlying bedrock condition. The area of most active erosion associated with Graywood Creek is along the western project site boundary.

GROUNDWATER

The hydrologic cycle includes groundwater when rainfall infiltrates and percolates to groundwater bodies. Groundwater can remain within the aquifer, or can flow out of the aquifer as springs and seeps, or into surface water bodies (e.g., streams and lakes). The project site is located in the vicinity of the Sonoma Valley Groundwater Basin.¹² A groundwater basin is defined as a hydrogeologic unit

¹⁰ *Ibid.*

¹¹ *Ibid.*

¹² *Water Quality Control Plan*, San Francisco Bay Regional Water Quality Control Board, 1995.

EXHIBIT 5.3-6
BENEFICIAL USES OF SONOMA CREEK

Beneficial Use	Existing
Agricultural Supply	
Cold Freshwater Habitat	9
Commercial/Sport Fishing	
Estuarine Habitat	
Freshwater Replenishment	
Groundwater Recharge	
Industrial Service Supply	
Marine Habitat	
Fish Migration	9
Municipal and Domestic Water Supply	
Navigation	
Industrial Process Supply	
Preservation of Rare and Endangered Species	9
Water Contact Recreation	9
Noncontact Water Recreation	9
Shellfish Harvesting	
Fish Spawning	9
Warm Freshwater Habitat	9
Wildlife Habitat	9

Source: *Water Quality Control Plan*, San Francisco Bay Regional Water Quality Control Board, 1995.

that contains one large or several connected and interrelated aquifers.¹³ The Sonoma Valley Groundwater Basin covers an area of roughly 50 square miles, and has a maximum depth of approximately 1,000 feet; it is estimated to have a storage capacity of 2.66 million acre-feet.¹⁴

The southern section of the project area is located in the Kenwood-Rincon Groundwater Storage Unit (within the Sonoma Valley Groundwater Basin), as defined by the Department of Water Resources.¹⁵ The northern section of the project area, above the valley floor, is not part of the groundwater storage unit. This unit is bounded to the north by the steep hillsides, to the east by the Glen Ellen Storage Unit, to the west by the Santa Rosa and Larkfield Storage Units, and to the south by the Sonoma Mountains.

Groundwater in the project area comes from percolation of local rainfall. The area over which rainfall infiltrates/percolates to the groundwater is called a groundwater recharge area. Recharge areas are found on mountains, along foothill slopes, and on valley floors.¹⁶ The southern section of the project site (roughly 46.5 acres) is located in a groundwater recharge area for the Kenwood-Rincon Groundwater Storage Unit.¹⁷ This recharge area is estimated to contribute an average of 39.3 acre-feet of water per year to groundwater. Groundwater studies performed by Adobe Associates (the project applicant's engineer)¹⁸ determined the direction of groundwater flow on the southerly portion of the project site. The 2000/2001 season monitoring data indicated a groundwater gradient direction of south 27 degrees west to south 55 degrees west, and monitoring data from the 2001/2002 season indicated a groundwater gradient direction of south 10 degrees west to south 24 degrees west. Further groundwater information pertinent to wastewater disposal and water use is discussed in **Section 5.4 Wastewater Disposal**, and **Section 5.5 Water Supply**, respectively.

REGULATORY SETTING

The Sonoma County Water Agency requires a setback¹⁹ between natural waterways²⁰ and developed areas (such as roadways, buildings, or other structures). The setback distance includes the entire

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ *Evaluation of Ground Water Resources: Sonoma County, Volume 1: Geologic and Hydrologic Data*, Robert Ford, Department of Water Resources, 1975.

¹⁶ *Ibid.*

¹⁷ *Ibid.*

¹⁸ *Groundwater Study for the Sonoma Country Inn*, Adobe Associates, Inc., June 2, 2001.

¹⁹ *Flood Control Design Criteria Manual for Waterways, Channels and Closed Conduits*, Sonoma County Water Agency, Revised August 1983, pages 45 and 46.

²⁰ A waterway is defined as "any natural or artificial channel or depression in the surface of the earth which provides a course for water flowing either continuously or intermittently".

waterway area between the top of banks, together with a minimum 30-foot-wide erosion buffer and access strip along the top of each bank.²¹ If a natural waterway has earthen bank slopes steeper than 2 ½ : 1 (horizontal : vertical²²), the setback shall be increased to provide width for not less than 2 ½ to 1 slopes from the existing toe of bank,²³ plus the 30-foot-wide erosion buffer and access strips.

Hydrology and Water Quality – Significance Criteria

According to the *State CEQA* Guidelines the proposed project would result in a significant hydrologic, drainage, or water quality impact if it:

Water Quality

- x Violated any water quality standards or waste discharge requirements.
- x Substantially degraded water quality.

Drainage

- x Substantially altered the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- x Substantially altered the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
- x Created or contributed runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provided substantial additional sources of polluted runoff.
- x Required or resulted in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Flooding

- x Placed housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- x Placed within a 100-year flood hazard area structures which would impede or redirect flood flows.

²¹ The top of bank is defined as that bank which is at or above the elevation of the adjacent natural ground outside of the waterway.

²² This means that for a horizontal distance of 2 ½ feet, for instance, there would be a one-foot vertical rise.

²³ The toe of bank is defined as the bottom of the slope from the top of bank excluding secondary banks.

- x Exposed people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Seiche, Tsunami, and Mudflow

- x Resulted in inundation by seiche, tsunami, or mudflow.

Hydrology and Water Quality – Impacts and Mitigation ²⁴

Impact 5.3-1 Construction Period Water Quality Impacts

Grading activities would expose soils to the erosional forces of runoff. The eroded sediments would be deposited in the downstream receiving channels, such as Graywood Creek and Sonoma Creek. This would be a short-term significant impact.

The applicant has not yet prepared a grading plan for the project site at a sufficient level of detail to allow projection of grading quantities. However, based upon the preliminary plans, creekside construction would occur along portions of Graywood Creek where improvements to Road A and the proposed trail are planned. In some areas, the current road is located between the edge of the creek and steep slopes. The roadway would require new and improved stream crossings, necessitating the placement of a culvert or bridge in the creek. Grading would also occur at proposed driveway, parking, and building pad locations. The project would present a significant threat of soil erosion from soil disturbance because:

- x Some of the proposed grading would occur on moderately steep to steep hill slopes;
- x The soils on the project site are moderately to very highly susceptible to erosion; and
- x Extensive grading would be required to construct the proposed roadways, parking areas, and building pads, thus exposing surface and sub-surface soils to the erosional forces of runoff.

Soil erosion can cause numerous types of environmental impacts. Eroded soil contains nitrogen, phosphorus, and other nutrients. When these nutrients are transported to water bodies, they can trigger algal blooms that reduce water clarity, deplete oxygen, and create odors. Excessive deposition of the sediments in streams may blanket fauna. The increased turbidity from the erosion may also reduce the photosynthesis that produces food supply and natural aquatic habitats. Sediments from project-induced on-site erosion could be deposited in the downstream receiving channels (for instance, Graywood Creek and Sonoma Creek). Sediment deposition could interfere with the natural flow of storm waters, cause flooding where it would not otherwise occur, aggravate downstream flooding conditions, or accelerate channel erosion. The combination of soil erosion effects during project construction would represent a significant water quality impact.

In addition to soil erosion, the improper use or accidental spillage of fuel, hydraulic fluid, or other construction-related fluids could contaminate on- and off-site creeks and wetlands. This would be a significant impact.

²⁴ Impacts to groundwater recharge and aquifer level are discussed in *Section 5.5 Water Supply* (see Impact 5.5-3).

Mitigation Measure 5.3-1 The following mitigation measures would reduce project construction-related water quality impacts to less-than-significant levels:

(1) Prior to the issuance of a grading permit, the applicant shall file with the San Francisco Bay Regional Water Quality Control Board a Notice of Intent to comply with the General Permit for Storm Water Discharges Associated with Construction Activities (General Permit) under the NPDES regulations, and comply with the requirements of the permit to minimize pollution to storm water discharge during construction activities. The General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall meet the following objectives related to construction activities:

- à All pollutant sources, including sources of sediment that may affect storm water quality associated with construction activity shall be identified;
- à Non-stormwater discharges related to construction activity shall be identified;
- à Best Management Practices (BMPs) shall be identified, constructed, implemented, and maintained in accordance with a time schedule. The maintenance schedule shall also provide for maintenance of post-construction BMPs.

The BMPs shall include a variety of “housekeeping” measures to prevent pollution from building materials, chemicals and maintenance during construction of the development and infrastructure. Examples of typical “housekeeping” measures to be included in the SWPPP include the following:

- à Performing major vehicle maintenance, repair jobs, and equipment washing at appropriate off-site locations;
- à Maintaining all vehicles and heavy equipment and frequently inspecting for leaks;
- à Designating one area of the construction site, well away from streams or storm drain inlets, for auto and equipment parking and routine vehicle and equipment maintenance;
- à Cleaning-up spilled dry materials immediately. Spills are not to be “washed away” with water or buried;
- à Using the minimum amount of water necessary for dust control;
- à Cleaning-up liquid spills on paved or impermeable surfaces using “dry” cleanup methods (e.g., absorbent materials such as cat litter, and/or rags);
- à Cleaning-up spills on dirt areas by removing and properly disposing of the contaminated soil;
- à Reporting significant spills to the appropriate spill response agencies;
- à Storing stockpiled materials, wastes, containers and dumpsters under a temporary roof or secured plastic sheeting;
- à Properly storing containers of paints, chemicals, solvents, and other hazardous materials in garages or sheds with double containment during rainy periods;

- à Placing trash receptacles under roofs or covering them with plastic sheeting at the end of each workday and during rainy weather;
- à Washing-out concrete mixers only in designated on-site wash-out areas where the water will flow into settling ponds or onto stockpiles of aggregate or sand. Whenever possible, the wash-out will be recycled by pumping back into mixers for reuse. The wash-out is not to be disposed of into the street, storm drains, drainage ditches, or streams;
- à Applying concrete, asphalt, and seal coat during dry weather. Keeping contaminants from fresh concrete and asphalt out of the storm drains and creeks by scheduling paving jobs during periods of dry weather and allowing new pavement to cure before storm water flows across it;
- à Covering catch basins and manholes when applying seal coat, slurry seal and fog seal; and,
- à Parking construction equipment over drip pans or absorbent materials, to capture dripping oil and/or other possible pollutants.

Also required under the General Permit is the development and implementation of a monitoring program. The monitoring program shall include inspections of the construction site prior to anticipated storm events and after actual storm events. During storm events of extended duration, inspections shall be made during each 24-hour period. The inspections are used to identify areas contributing to storm water discharge, to evaluate the effectiveness of BMPs, and to determine whether additional BMPs or corrective maintenance are needed. All corrective maintenance and BMPs shall be made as soon as possible (provided working conditions are safe), and all necessary equipment, materials, and workers shall be available for rapid response. The SWPPP shall also include post-construction storm water management practices. Post-construction water quality impacts are mitigated under Mitigation Measure 5.3-2.

- (2) The applicant shall obtain a County General Grading Permit for all components of the project²⁵ from the Sonoma County Permit and Resource Management Department. The grading plan shall adhere to current Uniform Building Code and County of Sonoma requirements and shall employ sound construction practices. The amount of total grading on the project site shall be minimized, and the amount of development and grading for sloping areas of the project site shall be reduced. Pier foundations shall be used for structures where this could substantially reduce construction grading.
- (3) The applicant's drainage plan shall include a County-approved erosion and sediment control plan to minimize the impacts from erosion and sedimentation during construction of all elements of the project. The drainage plan can be reviewed by the PRMD at the same time as the grading plan.²⁶ This plan should conform to all standards adopted by the County. Many elements of the drainage plan would overlap with the SWPPP. This plan should include application of Best Management Practices, including, but not limited to, the following:

²⁵ A grading permit must be obtained for each component of the project; however, the permit can be obtained for the entire project (all commercial and residential development), or individual permits can be obtained for each component of the project. Questa Engineering conversation with Kevin Doble, PRMD, October 2002.

²⁶ Questa Engineering conversation with Kevin Doble, PRMD, August 2002.

- à Site construction practices including restricting grading to the dry season, specifying construction measures that minimize exposure of bare soil to rainfall, winterization, traffic control, and dust control;
- à All improvement plans showing development within 100 feet of a stream course shall show a setback line along that waterway that shall be measured from the toe of the stream bank outward a distance of 2 ½ times the height of the stream bank plus 30 feet, or 30 feet from the top of bank, whichever distance is greater.²⁷ No grading, building, or other development permit shall be issued until evidence is submitted and approved by the PRMD Drainage Review Section that all structures meet or exceed the required setback along the waterway;
- à Existing wetlands and the riparian setback shall be delineated on the final map as well as on the construction plans;
- à Designing the access roads to use the minimum amount of grading necessary. Road grading and construction within 100-feet of all streams and major drainages shall be completed by October 15 during the year(s) of construction, and erosion control measures shall be installed by that date;
- à Using soil stabilization techniques to project all finished graded slopes from erosion such as straw mulching, hillslope benching, erosion control matting, hydroseeding, revegetation, and preservation of existing vegetation;
- à Weed-free straw or mulch shall be used to cover bare soils during and after construction, and areas shall be landscaped and revegetated as soon as possible after disturbance. Straw or straw bales used for erosion control shall be certified weed free prior to use on the site, in order to prevent invasive weeds from entering the site;
- à Protecting downstream receiving drainage channels and storm drains from sedimentation and retaining sediment on the project site by using silt fencing, straw bale sediment barriers, and drop inlet sediment barriers, diversion dikes and swales, sediment basins, and sediment traps; and
- à After each phase of construction is completed, all drainage culverts and the downstream receiving channels shall be inspected for accumulated sediment. Where sediment has accumulated, these drainage structures shall be cleared of debris and sediment.

Significance After Mitigation Implementation of Mitigation Measure 5.3-1 would reduce short-term construction impacts to water quality to a less-than-significant level.

Responsibility and Monitoring The applicant would be responsible for obtaining coverage under the NPDES General Permit prior to commencement of construction activities. To obtain coverage, the applicant must file a Notice of Intent with the SFBRWQCB. In addition, coverage under this permit shall not occur until the applicant develops an adequate SWPPP for the project. The applicant would also be responsible for obtaining County permits. Applicant shall submit a copy of the NOI, SWPPP, and erosion control plan to County at time of grading permit applications.

²⁷ Memo to Denise Peter from Lola Coretti, Permit and Resource Management Drainage Review, July 16, 2001.

Impact 5.3-2 Water Quality Impacts from Project-Related Runoff Pollutants

Surface water quality could be impacted from project-related runoff pollutants, such as suspended solids and floating debris, litter, nutrients, heavy metals, hydrocarbons, pesticides, and trace organics. This would be a significant impact.

Adverse impacts on the water quality of the on-site seasonal drainages and Sonoma Creek could occur as a result of:

- x Residential urban pollutant runoff from the proposed roadways/streets, residences, and common areas on the project site; and,
- x Increased sedimentation associated with project increases in runoff.

Of particular concern on the site, is the introduction of runoff pollutants to a wetland area containing a colony of narrow-anthered California Brodiaea (a special-status plant species²⁸), located in a rocky drainage on the western end of the plateau. The developed areas that would drain into the Brodiaea colony include parts of five residential lots (residential lots 3, 4, 6, 7, and 11), the spa, several of the cottages, and roadways and parking areas. The proposed project would add roughly three acres of impervious surface (for instance, roadways, streets, walkways, and roofs) to the 70-acre subwatershed that contains the Brodiaea colony. Also of concern is the seasonal wetland that receives runoff from the west fork of the Graywood Creek. The developed areas that would drain into this wetland include all or part of residential lots 5 and 6, as well as a small portion of the inn parcel. Please see **Section 5.6 Biological Resources**, for additional discussion of the Brodiaea colony and seasonal wetlands.

The types of pollutants that are likely to increase to greater concentrations than are currently occurring in the on-site seasonal drainages, and that would contribute to higher concentrations in Sonoma Creek, include suspended solids and floating debris, litter, nutrients associated with landscape fertilizers, heavy metals (especially copper, lead, and zinc) from automobiles, hydrocarbons associated with fuels and crankcase oil, pesticides, and trace organics from solvents. The potential for surface runoff water quality effects on downstream receiving waters represents a significant impact of the project.

Mitigation Measure 5.3-2 Non-point source water quality impacts from the project could be mitigated with an overall storm water runoff control program. Under the General Construction Permit, the applicant must develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP includes Best Management Practices for storm water management during and following the construction phase of the project. Mitigation Measure 5.3-1 discusses the management practices applicable to construction activities. The SWPPP shall also include the following in its discussion of post-construction pollution control measures:

- (1) Identify specific types and sources of storm water pollutants associated with the proposed project development and land use activities;
- (2) Identify the location and nature of potentially significant water quality impacts; and
- (3) Specify appropriate permanent control measures to be incorporated into overall site development and residential design/management guidelines to eliminate any potentially significant impacts to receiving water quality from storm water runoff.

²⁸ The Narrow-anthered California Brodiaea is included on List 1B (plants considered rare, threatened, or endangered in California and elsewhere on the California Native Plant Society *Inventory of Rare and Endangered Plants of California*).

Control measures should incorporate such things as vegetated buffer strips, vegetated swales, water quality detention basins, site development restrictions, public education, and other design or source control management practices, as appropriate, to mitigate adverse potential water quality effects. A program of periodic sweeping and cleaning of pavement shall be implemented. Sweeping materials shall be taken to a landfill or other permitted location.

Post-construction BMPs shall also include the minimization of land disturbance, the minimization of impervious surfaces, treatment of stormwater runoff utilizing infiltration, detention/retention, biofilter BMPs, use of efficient irrigation systems, ensuring that interior drains are not connected to a storm drain sewer system, and appropriately designed and constructed energy dissipater devices. These must be consistent with all local post-construction stormwater management requirements and policies.

Significance After Mitigation Implementation of Mitigation Measure 5.3-2 would reduce impacts to water quality from project-related pollutants to a less-than-significant level.

Responsibility and Monitoring The applicant would be responsible to obtain coverage under the General Construction Permit prior to commencement of construction activities. To obtain coverage, the applicant must file a Notice of Intent with the SFBRWQCB. In addition, coverage under this permit shall not occur until the applicant develops an adequate SWPPP for the project.

Impact 5.3-3 Impacts to Existing Drainage Patterns Resulting in Increased Erosion and Sedimentation

Alterations to existing drainage patterns, including increased peak flows in on- and off-site streams and drainages, and the new construction of roadways, stream crossings, parking areas, and structures could result in increased erosion and sedimentation of on- and off-site small drainages and Graywood and Sonoma Creeks. This would be a significant impact.

Development of the project site as proposed would include the construction of buildings and other structures (for instance, a water storage tank), roadways, parking areas, and a trail. Stormwater runoff from the developed areas would be conveyed to the natural drainage ways. All proposed buildings and parking areas would be located outside of natural drainage ways. As envisioned, the trail would begin at the winery and end at the edge of residential lot 7. From the winery to residential lot 7 the trail is proposed as a six- to eight-foot wide path constructed parallel to the main access road. From residential lot 7 the trail would be located along the property line of residential lot 7 to residential lot 11.²⁹ In general, the trail and roadway (Road A) would not alter the existing drainage pattern of the site or area. Road A would create a new crossing over Graywood Creek, and would then follow the existing roadway alignment to the plateau area where the inn/spa/restaurant and most of the residential development would be located. However, along the western boundary of residential lot 5, Road A and the trail would be within ten feet of the top-of-bank of Graywood Creek. Any new construction of a roadway so near to the creek could result in increased erosion and sedimentation beyond existing conditions. This would be a significant impact.

One water storage tank is to be located on the project site. Two locations have been identified for the water tank. The first location is in the northeastern corner of residential lot 10, where it is partially located within the mapped area of the Sonoma Ceanothus Preserve. The second location, in the northern section of residential lot 7, is the alternative water tank location. The alternative tank

²⁹ The trail route beyond residential lot 11 is not yet determined. It would be the County's responsibility to determine the route for the trail from Lot 11 to the northern property line.

location is less than 20 feet to the west of a natural drainage way (the east fork of Graywood Creek). The proximity of the tank to the natural drainage way is of concern, as the creek could change its course over time, eventually being directed around this tank site. This would lead to increased erosion and sedimentation, likely necessitating bank stabilization and revetment. This would be a significant impact.

The development of a new, wider access road along the existing roadway alignment would require new stream crossings and bank stabilization in Graywood Creek (see Exhibit 5.3-7). Seven stream crossings would be constructed or improved for the proposed road alignment. Three crossings are located on the east fork of Graywood Creek, one of those borders the upstream boundary of the Brodiaea Colony on the inn parcel. Two of the crossings are located on the west fork of the creek. The remaining crossings are on the main channel of the creek. In addition to the seven crossings on Graywood Creek, a small seasonal drainage crosses the proposed driveways entering and exiting the winery and events center parking area; two crossings would be constructed along this drainage. The new stream crossings would be constructed from bottomless steel/alloy pipe arches or culverts; currently, the roadway crossings pass directly through the creek.³⁰ Work within the creek for the bank stabilization and new crossings would involve grading, and the removal and placement of fill. The use of steel/alloy arches and culverts would be an improvement over the existing stream crossing conditions. However, the alteration of the stream channels could lead to increased erosion and sedimentation of downstream channels. At the current project design level, detailed information about the stream crossings is not known. However, prior to construction, the alteration of the stream channels for the new crossings and bank stabilization would require appropriate permits from the California Department of Fish and Game, the San Francisco Bay Regional Water Quality Control Board, and the U.S. Army Corps of Engineers. The conditions of these permits would ensure proper mitigations are completed to minimize erosion and sedimentation. Please see **Section 5.6 Biological Resources**, for discussion of impacts to wetlands and drainages from erosion and water quality degradation (see Impact 5.6-3 Loss of Wetlands and Drainages).

The development of buildings and parking areas would not impact the existing drainage patterns on the project site, although the reduction of infiltrative area from paving and construction of new buildings would increase runoff to on- and off-site streams and drainages. The Rational Method was used to estimate existing and post-development peak flows of project area runoff. The existing drainage patterns would be retained under the proposed project, therefore the time of concentration and drainage area are not expected to change measurably. The times of concentration of Subwatershed 1 and Drainage 2a were calculated as 38 and 29 minutes, respectively. The runoff coefficient is derived from soil conditions, vegetative cover, and land use. The runoff coefficient is the main variable in the runoff calculations for the proposed development.

³⁰ Questa Engineering conversation with Merrill Van Fleet, Adobe Associates, July 2002.

EXHIBIT 5.3-7

Exhibit 5.3-8 shows the estimated pre- and post-development runoff coefficients and the calculated 10-year peak flows for Subwatershed 1 and Drainage 2a.

**EXHIBIT 5.3-8
 PROPOSED PROJECT: PRE- AND POST-DEVELOPMENT 10-YEAR RUNOFF IN
 SUBWATERSHED 1 AND DRAINAGE 2A**

Watershed	Watershed Conditions	Runoff Coefficient	Rainfall Intensity^a	Drainage Area	10-year Peak Runoff	Percent Increase in Runoff
Subwatershed 1 (Graywood Creek)	Pre-development	0.22	1.05 in/hr	503 acres	116 cfs	4.5
	Post-development	0.23			121 cfs	
Drainage 2a (Subwatershed 2)	Pre-development	0.19	1.21 in/hr	40 acres	9.2 cfs	26
	Post-development	0.24			11.6 cfs	

a *Flood Control Design Criteria Manual for Waterways, Channels, and Closed Conduits*, Sonoma County Water Agency, 1983 revised.

Source: Questa Engineering

As shown in Exhibit 5.3-8 the proposed project would result in an approximately 4.5 percent increase in the ten-year peak runoff draining from the project site to Graywood Creek (Subwatershed 1). Development as proposed within the upper section of Drainage 2a would increase runoff to that drainage by an estimated 26 percent. The change in peak discharge in the subwatersheds could result in increased erosion and sedimentation in on- and off-site channels. The soils on the project site range from moderately to very highly erodible; increased stormwater runoff would contribute to the erosion of these soils. Sediment would eventually be transported into natural drainage ways on the site and downstream of the project site into Sonoma Creek. This would be a significant impact.

Mitigation Measure 5.3-3 The following mitigation measures would reduce increased erosion impacts due to changes to existing drainage patterns to less-than-significant levels. Please refer to Mitigation Measures 5.3-1 and 5.3-2 for measures to reduce water quality impacts from construction activities and project-related runoff pollutants.

Mitigation Measure 5.3-3(a) The applicant shall revise the location of the roadway, and alternate water tank to avoid impacts to drainages. Per County requirements, the water tank shall be located at a distance of at least 2 ½ times the height of the stream bank plus 30 feet from the toe of the stream bank, or 30 feet outward from the top of the stream bank, whichever distance is greater. Roadway improvements shall be prohibited any closer to Graywood Creek than the existing road where improvements would be within 50 feet of the top of bank.

Mitigation Measure 5.3-3(b) Implementation of the following mitigation measures would reduce increased project site runoff impacts to a less-than-significant level:

- (1) The applicant shall prepare, for the review and approval by the Sonoma County Permit and Resource Management Department, a drainage plan (including appropriate hydrologic and

hydraulic information) which minimizes changes in post-development runoff, site peak flows, and stream velocities as compared with pre-development conditions. The design calculations shall demonstrate that the post-development ten-year runoff would not exceed pre-development runoff levels. Examples of applicable BMPs include the following:

- à Stormwater detention facilities to capture and regulate off-site runoff;
 - à Maintenance of the detention facilities shall include ³¹:
 - Regular inspection (annually and after each major storm) for accumulated debris, sediment buildup, clogging of inlets and outlets, and possible erosion problems;
 - Removing accumulated sediments from the basin on an annual basis (if a dry detention pond is used), and every two to five years (when ten to 15 percent of the storage volume has been lost) if a wet detention pond is used; ³² and
 - Mow and maintain pond vegetation, and replant or reseed vegetation as necessary to control erosion.
 - à Permeable pavements to promote infiltration and minimize runoff; and
 - à Cisterns, seepage basins, and dutch drains to infiltrate roof and parking area runoff. ³³
- (2) The drainage plan shall be prepared by a Registered Civil Engineer and in conformance with the Sonoma County Water Agency's Flood Control Design Criteria.
- (3) All on-site drainage facilities shall be constructed according to Sonoma County Water Agency's Flood Control Design Criteria and the County of Sonoma Permit and Resource Management Department standards and requirements.

Significance After Mitigation Implementation of Mitigation Measures 5.3-3(a) and (b) would reduce project impacts to a less-than-significant level.

Responsibility and Monitoring The applicant would be responsible for relocating the alternative water tank and for obtaining appropriate state and federal permits. The applicant also would be responsible for preparing the improvement plans and drainage plan and submitting them to the Sonoma County Permit and Resource Management Department. Prior to building or grading permit issuance the applicant shall submit evidence of approval of the drainage plan by the Sonoma County Sonoma County Permit and Resource Management Department. County staff would be responsible for ensuring that the recommendations of the drainage plan have been incorporated into the project. The applicant would be responsible for all maintenance of on-site drainage facilities.

³¹ *Start at the Source: Design Guidance Manual for Stormwater Quality Protection*, Bay Area Stormwater Management Agencies Association, 1999 Edition.

³² A dry detention basin stores water during storms for a short period of time (hours to days), then discharges to an adjacent surface water body. Wet detention ponds are year-round pools of water that discharge to adjacent water bodies (*Start at the Source: Design Guidance Manual for Stormwater Quality Protection*, *op. cit.*

³³ *Ibid.*

Impact 5.3-4 Increased Peak Flows to Sonoma Creek Resulting in Increased Flooding

The project site contains two watersheds that contribute flow to Sonoma Creek. Development of the watersheds could result in a small increase in peak flows (approximately 0.3 percent) to Sonoma Creek (translating into an estimated one or two inches of increased flood level). The impact on existing downstream flooding would be negligible, and would likely be lessened by the mitigation required to reduce impacts from increased peak flow on erosion and sedimentation (Mitigation Measure 5.3-3(b)). This would be a less-than-significant impact.

To estimate potential impacts to flooding, the Rational Method was used to estimate existing and future peak 100-year flows of project area runoff. All assumptions for runoff coefficients and times of concentrations discussed in Impact 5.3-4 were used in the analysis of the 100-year flows. Exhibit 5.3-9 shows the estimated pre- and post-development runoff coefficients and the calculated 100-year peak flows for Subwatershed 1 and Drainage 2a.

**EXHIBIT 5.3-9
 PROPOSED PROJECT: PRE- AND POST-DEVELOPMENT 100-YEAR RUNOFF IN
 SUBWATERSHED 1 AND DRAINAGE 2A**

Watershed	Watershed Conditions	Runoff Coefficient	Rainfall Intensity^a	Drainage Area	100-year Peak Runoff	Change in 100-year Peak Runoff
Subwatershed 1 (Graywood Creek)	Pre-development	0.22	1.48 in/hr	503 acres	164 cfs	7 cfs
	Post-development	0.23			171 cfs	
Drainage 2a (Subwatershed 2)	Pre-development	0.19	1.70 in/hr	40 acres	13.0 cfs	3.3 cfs
	Post-development	0.24			16.3 cfs	
					Total	10.3 cfs

a *Flood Control Design Criteria Manual for Waterways, Channels, and Closed Conduits*, Sonoma County Water Agency, 1983 revised.

Source: *Questa Engineering*

To estimate the impact of an increased 100-year discharge on downstream flooding, the estimated pre- and post-development 100-year discharge were compared at three locations downstream of the project site that are mapped within the 100-year FEMA floodplain: 1) at the confluence of Mt. Hood Creek and Graywood Creek; 2) downstream of where Drainage 2a contributes runoff to Sonoma Creek; and 3) downstream of the confluence of Mt. Hood Creek and Sonoma Creek. The post-development discharge at each location was estimated as the sum of the pre-development discharge at that location and the change in the peak runoff in the contributing watershed. For example, Graywood Creek (Subwatershed 1) contributes flow to Mt. Hood Creek; therefore, post-development discharge at the confluence of the creeks (2,337 cfs) is the sum of the pre-development discharge (2,330 cfs) and the change in the peak runoff in Subwatershed 1 (7 cfs). Exhibit 5.3-10 summarizes the pre- and post-development 100-year discharge at each location.

**EXHIBIT 5.3-10
 PROPOSED PROJECT: PRE- AND POST-DEVELOPMENT 100-YEAR DISCHARGE AT
 FLOODING LOCATIONS DOWNSTREAM OF THE PROJECT SITE**

Location	100-year Discharge		Percent Increase in 100-year Discharge
	Pre-development ³⁴	Post-development	
Confluence of Mt. Hood Creek and Graywood Creek	2,330 cfs	2,337 cfs	0.3
Sonoma Creek , Downstream of Drainage 2a	3,220 cfs	3,223 cfs	0.1
Confluence of Mt. Hood Creek and Sonoma Creek	5,300 cfs	5,310 cfs	0.2

Source: *Questa Engineering*

The development of the project site would contribute an additional 10 cubic feet per second to the peak discharge of Sonoma Creek at its confluence with Mt. Hood Creek, representing a 0.2 percent increase in peak discharge if the peak discharge from the two creeks happens to coincide. The overall increase in peak discharge is small (translating into an estimated one or two inches of increased flood level elevation). Detailed hydrologic and hydraulic modeling of the watersheds would be needed for a more precise estimate of the timing of the peak discharge and changes in flood elevations of the creeks. However, this estimate based on summing the peak discharge of the two creeks provides the most conservative (worst-case) estimate of the impact on increased flood flows, since it assumes that the time of peak discharges of both creeks coincide exactly, which is possible, but not likely. Further, potential impacts to peak runoff would be reduced by mitigation measures required to reduce impacts to erosion and sedimentation caused by increased runoff (Mitigation Measure 5.3-3(b)). Impacts to flooding from increased flows would be a less-than-significant impact.

Mitigation Measure 5.3-4 No mitigation would be required.

³⁴ *Flood Insurance Study – Sonoma County, California – Unincorporated Areas, op. cit.*

Impact 5.3-5 Increased Flows to the Narrow-anthered California Brodiaea Colony

The project site contains a colony of narrow-anthered California Brodiaea. The east fork of Graywood Creek flows through this colony. Development of the east fork's drainage area could lead to changes in flow to the Brodiaea colony, thus affecting the amount of water provided to the wetland and increasing erosion along the channel. Since the narrow-anthered California Brodiaea is a special status plant species, changes in the wetland hydrology would be a significant impact.

The east fork of Graywood Creek (Subwatershed 1) flows through a wetland area containing a colony of narrow-anthered California Brodiaea. The developed areas that would drain into the Brodiaea colony include parts of five residential lots (residential lots 3, 4, 6, 7, and 11), the spa, several cottages, and roadways and parking areas. The development would add roughly three acres of impervious surface to the subwatershed, thereby decreasing the amount of infiltrative area, and resulting in an increase of stormwater runoff to the wetland.

The Rational Method was used to estimate existing and future peak flows to this wetland area. It was assumed that the drainage patterns within the drainage would be retained under the project; therefore, the time of concentration and the drainage area are not expected to change. The time of concentration was calculated as 25 minutes for both pre- and post- development conditions.

Exhibit 5.3-11 presents the estimated pre- and post-development runoff coefficients and the calculated ten-year peak flows in the subwatershed.

**EXHIBIT 5.3-11
 PROPOSED PROJECT: PRE- AND POST-DEVELOPMENT RUNOFF – DRAINAGE 1A**

Watershed	Watershed Conditions	Runoff Coefficient	Rainfall Intensity^a	Drainage Area	10-year Peak Runoff	Percent Increase in Runoff
Drainage 1a (Subwatershed 1)	Pre-development	0.23	1.31	70 acres	21.1 cfs	13
	Post-development	0.26			23.8 cfs	

a Flood Control Design Criteria Manual for Waterways, Channels, and Closed Conduits, Sonoma County Water Agency, 1983 revised.

Source: Questa Engineering

Exhibit 5.3-11 shows that the proposed project would result in an approximately 13-percent increase in the ten-year peak runoff draining from the project site to the Brodiaea colony. The increase in runoff could lead to increased erosion, and incision and/or widening of the channel through the watershed. Also, the addition of impervious surfaces to the watershed would increase the volume of runoff to the wetland. This may alter the soil moisture balance of the wetland, potentially impacting the plants. Please see **Section 5.6 Biological Resources**, (Impact 5.6-1 Special-Status Species) for more details on impacts to this resource. This would be a potentially significant impact.

Mitigation Measure 5.3-5 To mitigate the impacts of peak flow and increase runoff volumes to the Brodiaea colony, the applicant shall prepare a drainage plan that minimizes changes in peak flow or runoff volume to the sensitive plant colony. The design calculations shall demonstrate that the post-development ten-year runoff would not exceed pre-development runoff levels. The drainage plan shall include measures that would mitigate impacts to the Brodiaea colony; examples of such BMPs include the following:

- à Restricting improvements to areas outside of any potential seasonal wetlands and sensitive plant colonies;
- à Constructing stormwater detention facilities to capture and regulate runoff from developed areas. The detention ponds may be planted with native aquatic plant to enhance water quality treatment. The runoff may be routed to the detention ponds through vegetated swales to aid in the removal of pollutants;
- à Maintenance of the detention facilities shall include regular inspection for sediment buildup, clogging of inlets and outlets, and possible erosion problems.
- à Using permeable pavements, cisterns, seepage basins, and dutch drains to infiltrate roof and parking area runoff. The use of these infiltrative devices shall mimic as closely as possible the existing infiltrative and runoff characteristics of the drainages that influence the wetlands and sensitive plant colonies.

The drainage plan shall be prepared by a Registered Civil Engineer and in conformance with the Sonoma County Water Agency's Flood Control Design Criteria. Additional mitigation measures to protect the Brodiaea colony are included in **Section 5.6, Biological Resources** (Impact 5.6-1 Special-Status Species).

Significance After Mitigation The implementation of Mitigation Measure 5.3-5 would reduce project impacts to a less-than-significant level.

Responsibility and Monitoring The applicant would be responsible for preparing the drainage plan and submitting to the Sonoma County Permit and Resource Management Department. Prior to submission of the final subdivision map the applicant shall submit evidence of approval of the drainage plan by the Sonoma County Permit and Resource Management Department. County staff would be responsible for ensuring that the recommendations of the drainage plan have been incorporated into the final subdivision map.

Impact 5.3-6 Impacts from Placing Housing/Structures in 100-Year Flood Hazard Area

The project site is neither located in an area mapped as a 100-year flood hazard area, nor would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. This impact would be less-than-significant.

The Federal Emergency Management Agency (FEMA) is responsible for mapping potential 100- and 500-year flood hazard zones throughout the U.S. No 100-year flood hazard zones are mapped within the project site boundaries (see Exhibit 5.3-5).

Mitigation Measure 5.3-6 No mitigation would be required.

Impact 5.3-7 Impacts from Inundation by Seiche, Tsunami, or Mudflow

The project site is not located in an area that would expose persons to inundation by seiche, tsunami, or mudflow. This would impact would be less-than-significant.

A seiche is a tide-like rise and drop of the surface of a landlocked body of water (e.g., a lake); its period can vary from a few minutes to several hours. There are no bodies of water on or near the project site that would be inundated by a seiche. Tsunamis, or tidal waves, are huge sea waves that are

caused by seismic activity or other disturbance of the ocean floor. The project site is not located in an area that would be impacted by tsunamis. This would not be an impact.

Mitigation Measure 5.3-7 No mitigation would be required.

Impact 5.3-8 Cumulative Hydrology and Water Quality Impacts

Cumulative projects within the area could exacerbate existing flooding problems along Sonoma Creek, increase erosion, and degrade water quality in the Sonoma Creek Watershed and its developed subwatersheds. Although the proposed project's impact on downstream flooding would be small, its contribution would represent part of the cumulative impact of all of the projects combined; this would be a significant cumulative impact.

The project's contribution to the cumulative water quality and erosion impacts would be less than cumulatively considerable, after incorporating mitigation measures required by the EIR.

The cumulative development assumptions prepared for this EIR includes 12 projects that are approved, under review, under construction or are reasonably expected to be built in the vicinity of the project site.³⁵ Ten of the projects are within the Sonoma Creek Watershed. One of these projects (Graywood Ranch Subdivision) is within Subwatershed 1, while another (Landmark Winery) would be located in Subwatershed 2. Of the projects within the Sonoma Creek Watershed, five would involve new construction, and eight would result in an increased transient and/or permanent population within the watershed (for instance, public tours, wine tasting and special events, or residential use). The projects involving new construction or remodeling would include the creation of impervious surface. The loss of infiltrative area would contribute to a cumulative increase in runoff volume and peak runoff in Sonoma Creek and its developed subwatersheds.

The intensity and duration of flooding along Sonoma Creek would be affected by cumulative increases in peak flow and runoff volume. As shown in Impact 5.3-4, impacts to flooding from increased peak runoff from the individual projects, such as the *Sonoma Country Inn*, would likely be small. However, the cumulative impact of all of the projects combined could potentially be significant. In developed areas within the 100-year floodplain, such as Kenwood, the flooding of homes and commercial businesses would be exacerbated by the cumulative increase in discharge. Further, the cumulative increase in peak discharge may also contribute to flooding in areas that are currently not within the 100-year flood plain. This would be a cumulatively significant impact.

The cumulative increase in storm water runoff would also contribute to more hillside and stream erosion, leading to increased sedimentation in Sonoma Creek and its developed subwatersheds. Although there are many influencing factors in the geomorphology of a stream system, increased sediment loads from the development/urbanization of watersheds can accelerate geomorphologic change, such as changes in stream course, meander patterns, and channel geometry. These changes can contribute to bank instability and affect the streams' ability to support aquatic systems (i.e., from the siltation of spawning gravels and habitat). With the implementation of Mitigation Measures 5.3-3(a) and (b) the proposed project's contribution to potential impacts to hydrology and water quality would be reduced to a less-than-significant level. The proposed project's contribution would not be cumulatively considerable and therefore would be less-than-significant.

³⁵ See *Section 3.3 Cumulative Development Assumptions* for further discussion of the cumulative projects.

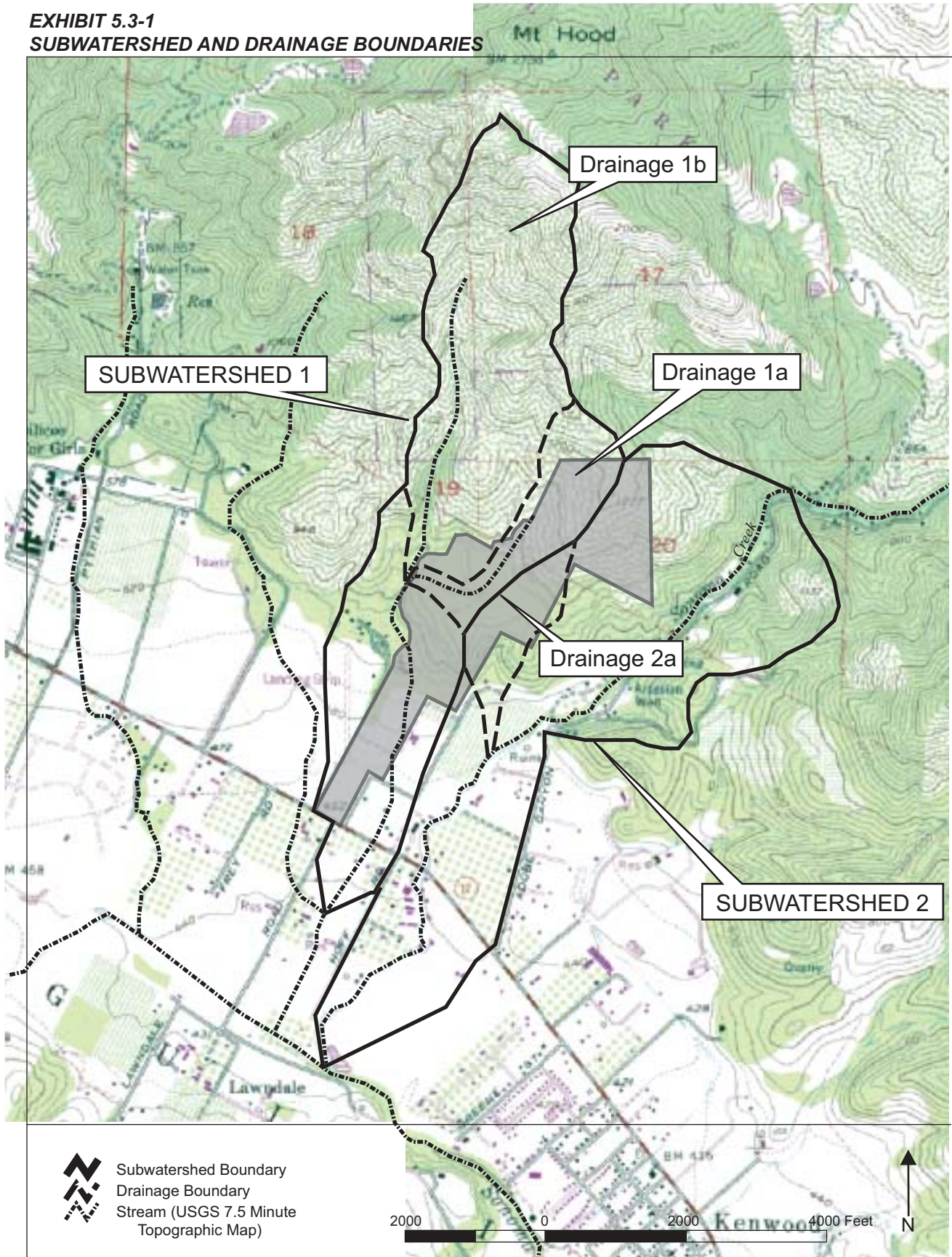
The Sonoma Creek Watershed is currently considered to be an impaired watershed under the Clean Water Act 303(d) list. The cumulative impact from development within the watershed would further degrade water quality. Increased erosion would also contribute to water quality problems since eroded soil contains nitrogen, phosphorus, and other nutrients. When these nutrients are transported to water bodies, they can trigger algal blooms that reduce water clarity, deplete oxygen, and create odors. Greater concentrations of pollutants including suspended solids and floating debris, litter, nutrients associated with landscape fertilizers, heavy metals (especially copper, lead, and zinc) from automobiles, hydrocarbons associated with fuels and crankcase oil, pesticides, and trace organics from solvents. The beneficial uses of Sonoma Creek would be adversely affected by cumulative water quality impacts and increased sedimentation. With the implementation of Mitigation Measures 5.3-1 and 5.3-2, the proposed project's contribution to potential impacts to water quality would be reduced to a less-than-significant level. The proposed project's contribution would not be cumulatively considerable and therefore cumulative impacts to hydrology and water quality would be less-than-significant.

Mitigation Measure 5.3-8 To mitigate the project's cumulative contribution to flooding of Sonoma Creek, the applicant shall also include in their drainage plan (see Mitigation Measure 5.3-3(b)) provisions for maintaining the pre-development 100-year runoff levels. The design calculations shall demonstrate that the post-development 100-year runoff would not exceed pre-development runoff levels. This can be achieved by BMPs such as those outlined in Mitigation Measure 5.3-3(b) (for example, stormwater detention facilities).

Significance After Mitigation The implementation of Mitigation Measure 5.3-8 would reduce the project's contribution to cumulative flooding impacts to a less-than-significant level.

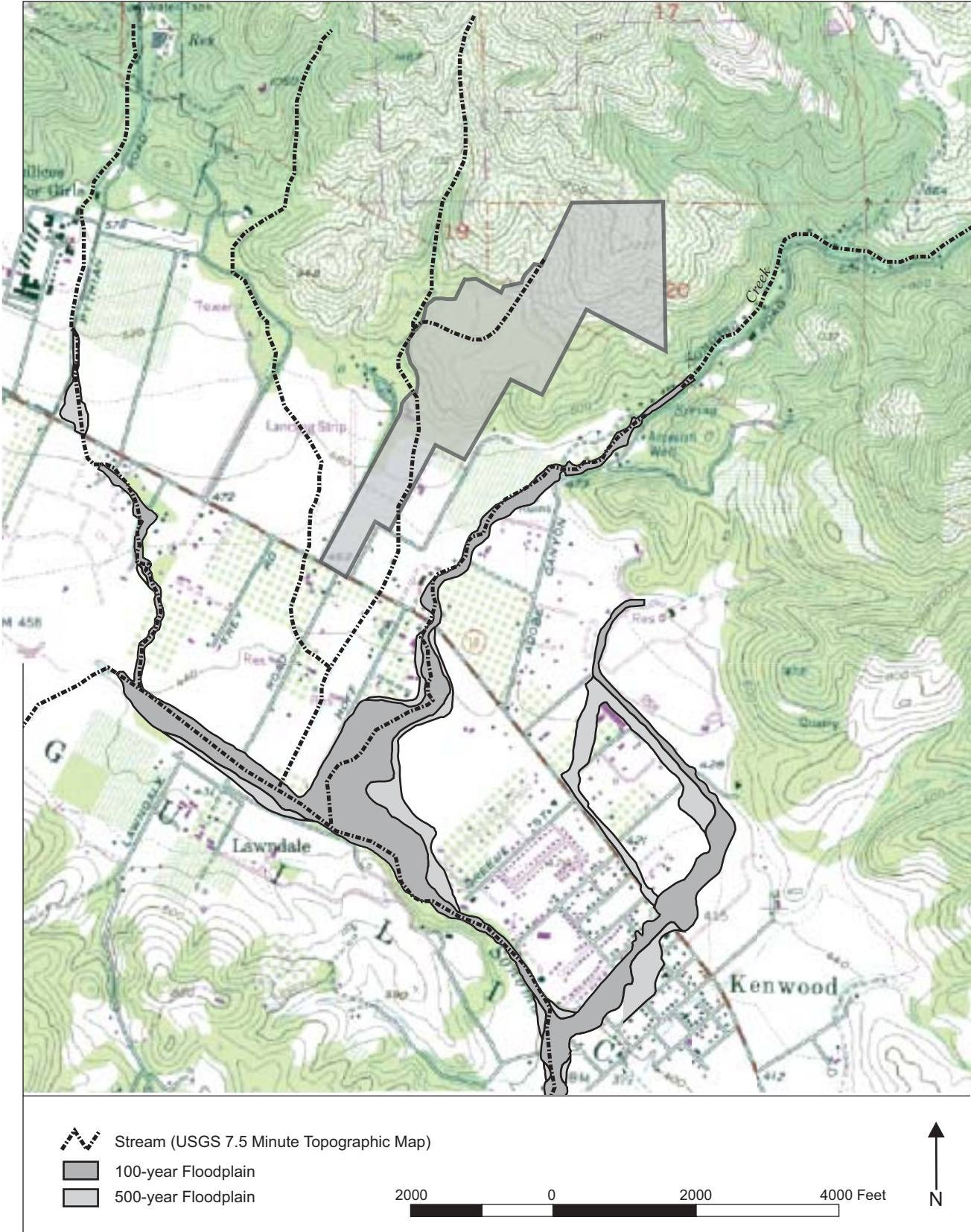
Responsibility and Monitoring The applicant would be responsible for preparing the drainage plan and submitting it to the Sonoma County Permit and Resource Management Department. Prior to submission of the final map the applicant shall submit evidence of approval of the drainage plan by the Sonoma County Permit and Resource Management Department. County staff would be responsible for ensuring that the recommendations of the drainage plan have been incorporated into the final subdivision map.

**EXHIBIT 5.3-1
SUBWATERSHED AND DRAINAGE BOUNDARIES**



Source: Questa Engineering Corp.

**EXHIBIT 5.3-5
100-YEAR AND 500-YEAR FLOOD HAZARD ZONES**



Source: Questa Engineering Corp.

**EXHIBIT 5.3-7
ROADWAY STREAM CROSSING LOCATIONS**



Source: Jane Valerius, Environmental Consulting

5.4 WASTEWATER DISPOSAL

Wastewater Disposal – The Setting

PERTINENT GEOLOGIC, SOIL, AND TOPOGRAPHIC FEATURES

Geologic Features

Three geologic units are present on the project site: alluvial fan deposits (Alluvium), the Glen Ellen Formation, and the Sonoma Volcanics. The Alluvium generally consists of loosely consolidated gravel, sand, and clay; this unit is at its maximum thickness (100 feet) in the southern section of the project site, where wastewater disposal for the inn/spa/restaurant and the winery (including the events pavilion) is proposed.¹ The Glen Ellen Formation underlies the Alluvium in a series of lenses of moderately consolidated gravel, sand, and clay. The Sonoma Volcanics are the oldest of the three units and underlay the Glen Ellen Formation. This unit constitutes the high ground of the valley.

Soil Features

Soil Types – Five soils types are mapped on the project site: Forward gravelly loam (9-30 percent slope), Goulding clay loam (5-15 percent and 30-50 percent slope), Los Robles gravelly clay loam (0-2 percent slope), Kidd very rocky loam (30 to 75 percent) and Red Hill clay loam (2-15 percent slope).² The southern section of the site, which would be used as a wastewater disposal area for the inn/spa/restaurant and the winery, is predominated by Los Robles gravelly clay loam and Red Hill clay loam. The Los Robles series consists of moderately well drained gravelly clay loam with a gravelly sandy clay loam subsoil; the soil type has a typical gravel content of 15 to 35 percent, by volume, generally increasing with depth.³ Los Robles gravelly clay loam has a typical soil depth of 60 to 72 inches. The Red Hill series consists of moderately well drained clay loams with a predominantly clay subsoil.⁴ Red Hill clay loams have a typical depth ranging from 48 inches to more than 60 inches. The minimum silt and clay content of a clay loam is approximately 40 percent. The residential portion of the project site is predominated by Goulding clay loam. This series consists of well-drained clay loams, with moderate permeability. Goulding clay loams have a typical depth to shattered bedrock of 16 to 24 inches.

Soil Percolation Testing – Soil percolation tests are used to evaluate the suitability of soils for wastewater disposal and for the sizing of wastewater disposal systems. The project applicant performed percolation tests on four of the eleven residential parcels (residential lots 1 through 4) in

¹ *Geology & Ground Water Potential of the Auberge Resorts Property*, E.H. Boudreau, October 3, 2000. Ford 1975

² *Soil Survey of Sonoma County*, United States Department of Agriculture (USDA), 1972.

³ *Ibid.*

⁴ *Ibid.*

September 2001; percolation testing was performed on residential lots 5 through 11 in 1985 (as part of the former the Graywood Ranch Subdivision project). Additionally, percolation testing of the inn/spa/restaurant and the winery wastewater disposal sites was performed in February, March, and May 2001. Exhibit 5.4-1 summarizes the results of the soil percolation testing; the average soil percolation rate and the number of bedrooms for which the leachfields were sized. As presented in the *Revised On-site Wastewater Disposal System Site Suitability Report*,⁵ the residential wastewater disposal fields have been sized to demonstrate the three-bedroom minimum disposal field capacity and 200 percent system replacement area typically used to demonstrate Sonoma County Code compliance, since no specific lot development plan exists for the proposed residential lots.

EXHIBIT 5.4-1
SOIL PERCOLATION RATES AND PROPOSED DISPOSAL AREA

<i>Location</i> ^{a,b}	<i>Percolation Rate (MPI)</i> ^c	<i>Number of Bedrooms</i>
Residential Lot 1	13	8
Residential Lot 2	12	5
Residential Lot 3	6	11
Residential Lot 4	31	9
Residential Lot 5	21	3
Residential Lot 6	25	3
Residential Lot 7	13	3
Residential Lot 8	37	3
Residential Lot 9	37	3
Residential Lot 10	26	3
Residential Lot 11	26	3
Inn/Spa/Restaurant Disposal Fields	3 to 15	-

- a Testing performed on residential lots 1-4 by Scientific Sanitation, September 2001
- b Residential lots 5-11 by David Campbell, October 1985, originally proposed for use in conjunction with the 1984 Graywood Ranch Subdivision; residential lots 5-11 of the Sonoma Country Inn project have proposed disposal fields which include parts of one or more of the Graywood Ranch Subdivision lots.
- c Minutes per inch

Source: Questa Engineering

Topographic Features and Slope Stability

The slopes on the project site generally run to the south-southeast. The southern part of the project site is relatively flat to gently sloping (less than five percent). The central area is composed of moderately steep slopes (roughly 15 to 20 percent) that rise from the valley floor to a plateau at an

⁵ *Revised On-Site Wastewater Disposal System Site Suitability Report*, M.B. Van Fleet, 2002.

elevation of 720 feet above mean sea level (msl) to 760 feet msl. The northern area consists of slopes rising steeply (20 to 25 percent) to a ridge top, at an elevation of approximately 1,250 feet msl. Slopes greater than 30 percent are unacceptable for any type of sewage disposal system in Sonoma County.⁶

Section 5.7 Geology/Soils discusses landslides and slope stability features. Landslide mapping by the USGS⁷ of the Kenwood quadrangle does not depict any landslides within, or immediately adjacent to the project site. Landslide mapping by CDMG⁸ depicts two large landslides on the flanks of the southern ridge nose of the upland area, and a third slide adjacent to the eastern boundary of the property. The area has been investigated by the applicant's geotechnical consultant and the work reviewed by the EIR geologist. The geologists concluded that there is not a significant risk with respect to the landslide on the proposed development sites (see **Section 5.7 Geology/Soils**, Impact 5.7-7 Slope Instability).

HYDROLOGIC FEATURES

Rainfall

Based on the data for the period of February 1952 to December 2000, the total annual average rainfall in the project vicinity is 29.9 inches, with most of the rainfall occurring during the months of November through March.⁹ The highest recorded annual rainfall was 63.5 inches (1983), and the lowest annual rainfall was 11.3 inches (1976). The maximum daily rainfall for the period of record occurred on January 4, 1982, when 6.75 inches fell.

Streams/Drainages

As described in **Section 5.3 Hydrology and Water Quality**, the project site includes several unnamed, ephemeral streams and drainages. The primary creek drainage, for the purposes of the EIR referred to as Graywood Creek, flows by the western property boundary and through the central portion of the project site. Graywood Creek is spring-fed, and flows seasonally. The smaller, ephemeral drainages on the project site flow in response to rain events.

Wetlands

Two seasonal wetlands, fed by separate ephemeral drainages, are located on the project site. The northern-most wetland straddles residential lot 5 and the inn parcel (Parcel B), directly north of the

⁶ Sonoma County Site Evaluation and Percolation Test Methods, *Reference Book for On-Site Sewage Disposal Requirements*, Sonoma County Permit and Resource Management Department.

⁷ Reconnaissance Photointerpretation Map of Landslides in 24 Selected 7½ Minute Quadrangles in Lake, Napa, Solano and Sonoma Counties, California, Dwyer et al., U.S. Geological Survey Open File Map Sheet, Kenwood Quadrangle, 1976.

⁸ *Geology For Planning In Sonoma County*, California Division of Mines and Geology (CDMG, Huffman and Armstrong), Special Report 120, Plate 2B (Landslides and Slope Stability) and Plate 3B (Geologic Map), 1980.

⁹ *Sonoma, California Period of Record Monthly Climate Summary*, <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?caso+nca>, Western Regional Climatic Center, April 26, 2002.

proposed Brodiaea preserve. The larger of the two wetlands is located within the proposed Brodiaea preserve on the inn parcel.

Groundwater

Two recent groundwater studies have been completed on the project site. The first study, *Geology & Ground Water Potential of the Auberge Resorts Property* was completed in October 2000 by E.H. Boudreau.¹⁰ The Boudreau study primarily provides information regarding available water supply, favorable drilling locations, and site geology. The second study, *Groundwater Study for the Sonoma Country Inn*, prepared by Adobe Associates, Inc.,¹¹ provides the results of long- and short-term shallow groundwater monitoring well data in the proposed wastewater disposal areas (for the proposed inn/spa/restaurant and winery). Adobe Associates completed an addendum to this study in July 2002. In addition to these reports, groundwater information, such as the locations of springs and wells on or near to the project site, has been obtained through conversations and correspondence with persons familiar with the properties, and the Department of Water Resources report, *Evaluation of Ground Water Resources: Sonoma County, Volume 1: Geologic and Hydrologic Data*.¹² This section of the report discusses background groundwater information pertinent to on-site wastewater disposal (e.g., depth to groundwater, observed seeps, and well and spring locations); further groundwater information (i.e., pertinent to water use) is discussed in **Section 5.5 Water Supply**.

Depth to Groundwater

Inn/Spa/Restaurant and Winery Disposal Areas Short-term shallow groundwater monitoring by Adobe Associates included the testing of shallow wells (less than eight feet deep) in the northerly portion of the proposed disposal field area in January 1998 and across the entire disposal field in March 2001 (in shallow hand-dug and back-hoe-dug monitoring wells). Groundwater depths in the northerly portion of the disposal field ranged from 7.3 feet to over 8 feet (January 1998), while groundwater depths across the entire disposal field ranged from 3.2 feet to over 8 feet in March 2001. Six long-term groundwater monitoring wells were installed at depths of 25 feet or more for the Adobe Associates groundwater study in November and December 2000, with weekly monitoring of the wells beginning in November 2000 and generally continuing through April 2001; regular monitoring was also performed from August 2001 through July 2002. Groundwater depths in the six long-term monitoring wells ranged from above grade (groundwater perched on the ground surface) during the wet weather season (generally January 1 through March 1) to 38.2 feet during the dry weather season. Only one monitoring well exhibited perched groundwater conditions during the wet weather season; the perched groundwater at this well is due to a localized depression in the ground surface. The depth to groundwater during the wet weather season at the other monitoring wells ranged from approximately 3.59 feet to 25.75 feet and 1.7 feet to 17.5 feet in the 2000/2001 and 2001/2002 sampling periods, respectively. Groundwater is generally deeper in the northerly and mostly southerly portions of the disposal field area, with the shallowest groundwater levels observed in the area surrounding the central proposed oak tree preserve. The 2000/2001 rainfall year received only about 72 percent of the normal rainfall, while the 2001/2002 rainfall year received roughly 130 percent of

¹⁰ *Geology & Ground Water Potential of the Auberge Resorts Property, op. cit.*

¹¹ *Groundwater Study for the Sonoma Country Inn*, Adobe Associates, Inc., June 2, 2001.

¹² *Evaluation of Ground Water Resources: Sonoma County, Volume 1: Geologic and Hydrologic Data*, Ford, 1975.

the normal rainfall. The data provides a reasonable range of groundwater levels that could be expected within the commercial wastewater disposal area.

Residential Lots Shallow groundwater information on the residential portion of the project site is very limited. However soil percolation test data sheets from October and November 1985 provide some information regarding groundwater. The soil percolation tests were performed as part of a *Septic Suitability Report for the Graywood Ranch* by Oberkamper & Associates, prepared for Sonoma County Health Department in April 1986. The Graywood Ranch sites proposed for use at that time correlate with some of residential lots 5 through 11 of the *Sonoma Country Inn* project. Notes on the soil percolation test data forms indicate that no shallow groundwater (depth of less than eight feet) was observed in January 1985.

Wells and Springs

Two new wells were constructed on the project site in July and September 2002 to provide water for the proposed project. The approximate location of the wells is shown in Exhibit 5.5-1. The upper well (“Resort Well”) is located immediately west of the proposed inn/spa/restaurant site and would provide water to the inn/spa/restaurant and the 11 proposed residences. The lower well (“Winery Well”) is located just north of the proposed winery/events pavilion and would provide water to the winery and events pavilion. Boudreau identified 19 wells located on properties adjacent to or near the project site.¹³ No wells were identified to the north of the project site, and only one was identified to the west; most wells were identified in areas south and east of the property.

There are no springs located on the project site; however, four springs have been identified on properties¹⁴ adjacent to the eastern property boundary (residential lot 11). These springs have provided water to homes/cabins on the lots since the early 1900s.

REGULATORY SETTING

The key regulatory issues that affect the siting, design, and operation of on-site wastewater treatment and disposal facilities for the *Sonoma Country Inn* are discussed below.

Septic System Siting and Design Criteria

On-site sewage disposal in Sonoma County is governed by the County Ordinances and regulations in conjunction with policies established by the North Coast and San Francisco Bay Regional Water Quality Control Boards (SFBRWQCB). The standards and policies are administered by the Sonoma County Permit and Resource Management Department (PRMD) and outlined in a compendium of reference materials. This compendium is titled *Reference Book for On-site Sewage Disposal Requirements* and is published by the PRMD. The requirements specified in these documents are oriented primarily toward traditional septic tank/leachfield systems; but they also include provisions that relate specifically to alternative or “non-standard” on-site wastewater systems that incorporate additional treatment or variations in disposal system design. Some of the key provisions that pertain to the *Sonoma Country Inn* are as follows.

¹³ *Geology & Ground Water Potential of the Auberge Resorts Property, op. cit.*

¹⁴ Identified by long-time property owner, Mr. John D. Foster, in June 21, 2002 letter.

Soil Depth

The required depth of permeable soils below a conventional leachfield disposal system is three feet. A depth of two feet is acceptable for certain alternative systems such as mounds.

Soil Percolation Rate

The percolation rate for standard leachfield systems is required to be within the range of one to 60 minutes per inch (MPI), which is the time for a one-inch water drop in a standard percolation test hole. Percolation rates up to 120 MPI are permitted for certain non-standard alternative septic systems. A minimum of six test holes spaced uniformly through the area chosen for the proposed leachfield and leachfield expansion area are required by the County.

Depth to Groundwater

The required depth to groundwater below the bottom of the leachfield trench (or bed) varies according to the percolation rate, as specified in the SFBRWQCB *Minimum Guidelines for the Control of Individual Wastewater Treatment and Disposal Systems*.¹⁵ Soils with faster percolation rates require greater depth to groundwater as follows:

<u>Percolation Test Rate (MPI)</u>	<u>Minimum Depth to Groundwater (ft)</u>
Greater than 5	3
Between 1 and 5	20
Less than 1	System Prohibited

Ground Slope

The natural ground slope in all areas to be used for effluent disposal is required to be not greater than 30 percent.

Setbacks from Wells and Water Courses

Required minimum setback distances between wastewater disposal fields and various water features are shown in Exhibit 5.4-2.

¹⁵ *Minimum Guidelines for the Control of Individual Wastewater Treatment and Disposal Systems*, San Francisco Bay Regional Water Quality Control Board, April 1979.

**EXHIBIT 5.4-2
 MINIMUM SETBACK DISTANCES (FEET)**

System Component	Well	Perennial Stream^a	Drainageway or Ephemeral Stream^b	Ocean, Lake, or Reservoir^c	Cut Banks, Natural Bluffs and Sharp Changes in Slope^d	Unstable Land Forms	Property Line^e
Septic Tank	50	50	50	50	25	50	5
Leachfield	100	100	50	100	25	50	5

- a As measured from the line which defines the limit of the 10-year frequency flood.
- b As measured from the edge of the water course.
- c As measured from the high water line.
- d Where soil depth or depth to groundwater below the leaching trench is less than five feet, a minimum setback distance of 50 feet shall be required. Non-standard systems must meet a minimum setback distance of at least 50 feet, even when soil depth or depth to groundwater is greater than five feet.
- e If property line is downhill from the system, then the setback is 25 feet for alternative systems.

Source: Sonoma County Permit and Resource Management Department; San Francisco Bay Regional Water Quality Control Board

Replacement Area

In addition to the required disposal area (i.e., primary leachfield), Sonoma County requires that an additional area equal to 200 percent of the primary field be designated and reserved for future use.

Non-Standard Sewage Disposal Systems

Non-standard sewage disposal systems, such as mound systems, pressure distribution systems, and sand filters, are used in areas where standard sewage disposal systems are not feasible (such as where soils and topographic conditions are unsuitable). The Sonoma County PRMD provides regulations for non-standard systems in their 2002 document, *Guidelines and Regulations for Non-Standard Sewage Disposal Systems* and in a Memorandum of Understanding with the SFBRWQCB. Non-standard systems proposed for the project would be subject to these regulations. For example, under these regulations, wastewater from the winery cannot be disposed of in a mound system.

Package Plant Guidelines

Guidelines for the use of individual package plants (such as, the fixed activated sludge treatment [FAST] system proposed for the project) are currently being drafted by the County, but they have not been finalized for public distribution and review.¹⁶ Additionally, the Regional Board does not have

¹⁶ Questa Engineering conversation with Ted Walker, PRMD; and Rich Holmer, PRMD, October 2002.

specific guidelines regarding package plants, but may require a Waste Discharge Permit for certain types and system flows.

Wastewater Disposal – Significance Criteria

The following significance criteria were identified for this EIR based on the *State CEQA* Guidelines, the kind of development proposed, and current professional practices. In accordance with these standards, a wastewater disposal effect would be determined significant if it:

Wastewater

- x Exceeded wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- x Resulted in the determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- x Required or resulted in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction and/or operation of which could cause significant environmental effects.
- x Had soils and land area incapable of adequately supporting the use of septic tanks or other waste disposal systems where sewers are not available for the disposal of wastewater.

Water Quality

- x Violated any water quality standards or waste discharge requirements.
- x Otherwise substantially degraded water quality.

Wastewater Disposal – Impacts and Mitigation

PROPOSED WASTEWATER TREATMENT AND DISPOSAL PRACTICE

Both the commercial and residential components of the proposed project would utilize septic systems for wastewater treatment and disposal. Three separate wastewater treatment and disposal systems are proposed for the commercial development portion of the project. The main system includes sewage from the inn, spa, and restaurant. A second system would treat and dispose of sewage and process wastewater from the winery. Another system would treat and dispose of only the graywater¹⁷ from the spa building and laundry facilities. The residential development would rely upon individual septic

¹⁷ Graywater is all wastewater excluding toilet wastes.

systems for household wastewater treatment and disposal. A description of the proposed wastewater disposal practice and anticipated wastewater flows for each of the systems follows.

Exhibit 5.4-3 identifies the general areas proposed for wastewater treatment and disposal. The commercial disposal areas include an area straddling the southern boundary of the winery parcel and the inn parcel (Disposal Area A), and an area between the northern proposed oak tree preserve and the southern project site boundary (Disposal Area B). The portion of the Disposal Area A located on the winery parcel would be used as the primary and 200 percent reserve (expansion) field for the winery; the remaining portion of this disposal field would be used as the primary disposal area for the inn/spa/restaurant. Part of Disposal Areas A and B would be used as a reserve disposal area for the inn/spa/restaurant, as discussed below.

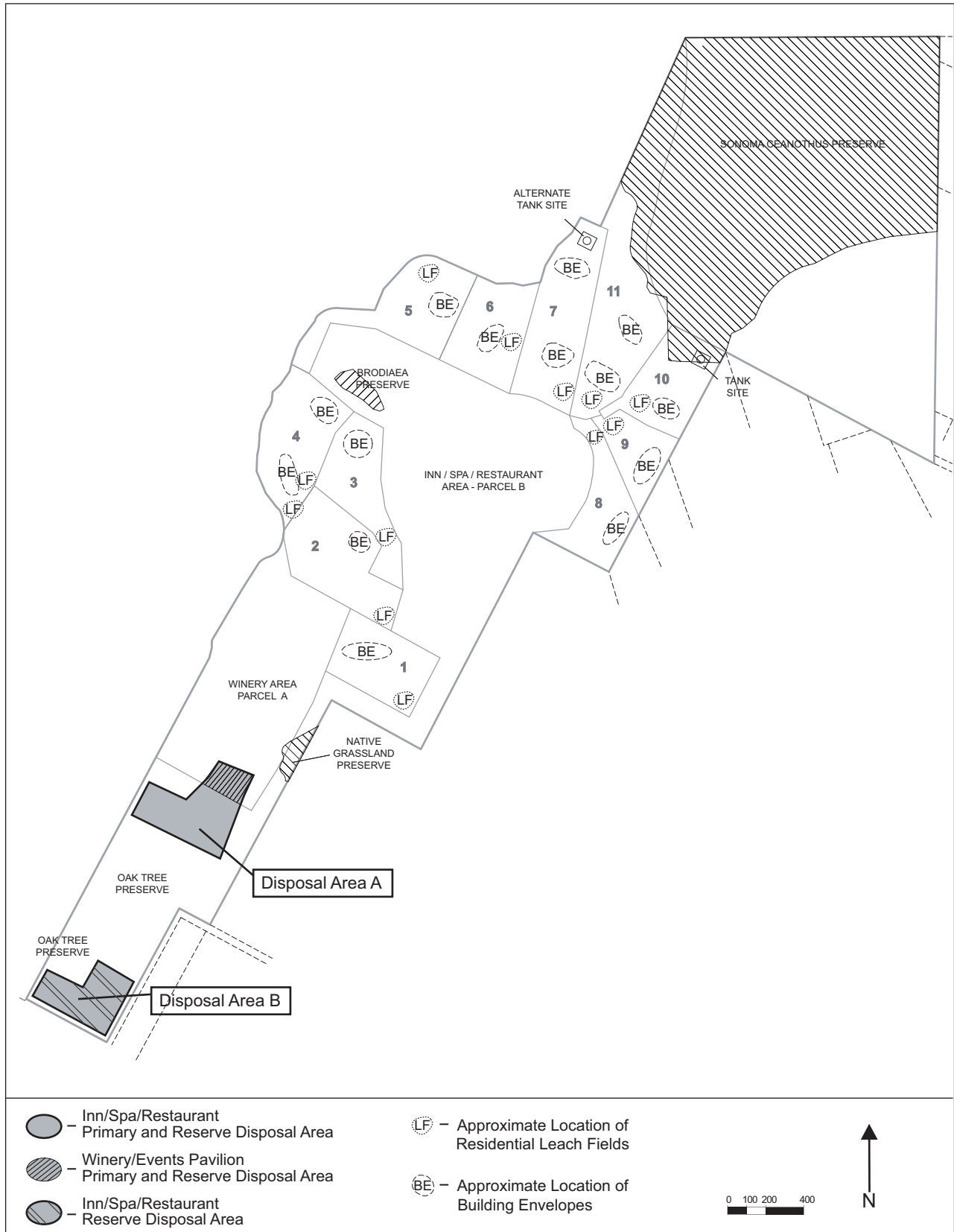
Inn/Spa/Restaurant Wastewater System

The proposed inn/spa/restaurant includes the construction of a 50-room inn with a spa, and a restaurant with a seating capacity of 125 persons (the spa and restaurant would be open to guests of the inn and to the public by reservation). Design flows for the proposed inn/spa/restaurant are 12,650 gallons per day (gpd) (see Exhibit 5.4-4). The design flow was estimated by assuming maximum occupancy at the inn, spa, and restaurant. The preliminary disposal field design for the inn/spa/restaurant would accommodate peak flows of up to 20,288 gpd. Most of the wastewater is generated from the inn and restaurant. Wastewater from the restaurant kitchen facilities would be treated in a grease trap/interceptor prior to mixing with wastewater from the spa, inn, cottages, and other restaurant wastewater. Grease traps/interceptors are designed to provide retention time to allow grease from kitchen wastewater to cool and solidify, so that it can be removed before it enters the septic system. The commingled wastewater from the inn, spa, and restaurant would enter a standard concrete septic tank, where the larger solids would settle to the bottom. Effluent from the septic tank would be pretreated prior to being disposed of in the disposal field area in the southerly portion of the project area. The purpose of pretreatment is to reduce contaminant levels below the threshold of concern for groundwater contamination. Pretreatment would reduce the organic content and nitrogen levels in the wastewater. A fixed activated sludge treatment (FAST) system with an intervening anoxic tank, developed by Smith and Loveless, Inc. is being considered for the pretreatment of the effluent. The FAST would lower the biochemical oxygen demand (BOD) and total suspended solids (TSS) levels in the wastewater effluent. The anoxic (oxygen-free) tank would promote denitrification processes to reduce nitrogen levels in the wastewater effluent.

Exhibit 5.4-3 shows the location of Disposal Area A, part of which would be used for wastewater disposal and for 100 percent reserve (expansion) area for the inn/spa/restaurant. Exhibit 5.4-3 also shows the location of Disposal Area B which would be used for the second 100 percent wastewater disposal reserve area for the inn/spa/restaurant, bringing the total reserve area to 200 percent, as required by County regulations. Traditional rock-filled leaching trenches¹⁸ would be used for disposal in Disposal Area A. Effluent from the pretreatment system would be distributed to the disposal field by pressure distribution. The expansion areas may be by shallow standard system (similar to the proposed project), mound system, or shallow irrigation in the Disposal Area A reserve area. The preliminary system design shows a portion of the required expansion area as shallow standard trench, 100 percent of the calculated flow in mound systems, and 100 percent of the calculated flow in a shallow drip irrigation field (for a total of 200 percent for expansion). No edible

¹⁸ The shallow leaching trenches may be constructed as shallow in-ground trenches, above ground mound type systems, or any other approved means that would meet groundwater separation standards (see *Regulatory Setting* above).

**EXHIBIT 5.4-3
LOCATION OF PROPOSED DISPOSAL AREAS**



Source: Questa Engineering

crops are proposed to be planted over the wastewater disposal fields. This system will require a Waste Discharge Permit from the SFBRWQCB.

Winery and Events Pavilion Wastewater System

The proposed winery would produce up to 10,000 cases of wine per year, and would include facilities for incidental/accessory tasting and retail sales of wine, and space for special events with a maximum attendance of 200 people. Design wastewater flows estimated by the applicant for the winery and events pavilion are approximately 1,955 gpd. The design flow assumes a peak harvest at the winery and an average attendance¹⁹ at the events pavilion. A peak harvest and a peak event would yield a flowrate of approximately 2,810 gpd. The preliminary leachfield design would accommodate peak flows of up to 2,536 gpd. The winery would include all aspects of wine production (grape crush, fermentation, and bottling), storage, and shipping. No vineyards are located on the project site, and the project would not include the planting of a vineyard; all grapes would be shipped to the project site for processing. Wastewater from the winery and events pavilion consists of winery process wastewater and winery, tasting room, and events pavilion sewage. The winery process wastewater would be combined with the wastewater from the winery, events center, and tasting room in a septic tank. Effluent from the septic tank would be pretreated using an individual package pre-treatment facility (FAST system), similar to that for the inn/spa/restaurant. The pretreated effluent would be discharged to shallow leaching trenches. Both the primary and reserve (expansion) disposal fields would be located in the northern portion of Disposal Area A. This system will require a Waste Discharge Permit from the SFBRWQCB.

Spa and Laundry Graywater System

Graywater from the inn laundry and spa facility would be treated to “Disinfected Tertiary Recycled Water” standards (California Code of Regulations, Title 22, Section 60301.230) and used to irrigate project landscaping and/or directed to a surface water feature to be located near the inn. A design flowrate of 6,400 gpd was estimated for the graywater system (see Exhibit 5.4-4). The refilling of the tubs at the spa facility generates most of the graywater. The graywater would flow from the inn laundry and spa facility to a septic tank. Effluent from the septic tank would flow through an aerator chamber to reduce the organic and suspended solids content (BOD and TSS). Some of the effluent from the aerator chamber would be recycled back through the septic tank, and some would pass through a membrane filter and chlorine contact chamber for disinfection prior to use for irrigation water or in a water feature. To maintain good water quality in the water feature, the water would be re-circulated through the septic tank and subsequent treatment train. The water feature would be used for storage, so that the weekly water use cycle would allow for timed irrigation rather than demand dosing. Although currently not designed, the surface water feature would have controlled access and would not be open for recreational use. Currently, the landscaping irrigation requirements are unknown, and a bypass for excess recycled graywater may be needed for discharge into the commercial disposal fields (inn/spa/restaurant disposal field). The design flows to the commercial disposal field do not include peak flow from the spa and laundry graywater; however, if it is necessary to discharge graywater into the disposal field during the rainy season months (when irrigation demands and average attendance at the inn/spa/restaurant is expected to be lower), it would be done in a manner that would not exceed peak design flow.

¹⁹ The estimated average attendance at the events pavilion is 50 guests and eight employees.

Residential Lots

Eleven residential lots are proposed. The lot sizes vary from approximately 2.6 acres to 71.2 acres, with most of the lots ranging from four to six acres in size. The available capacity for on-site wastewater disposal varies on each lot. As proposed, the residential lots are capable of providing capacity for on-site wastewater disposal and treatment for homes ranging from three to 11 bedrooms. Seven of the residential lots would have capacity for three bedroom homes (as proposed).²⁰ Four of the residential lots would have capacity for five- to 11-bedroom homes (see Exhibit 5.4-1). The applicant has proposed to use water-saving devices, thus reducing the amount of wastewater generated at each residence. With the water-saving devices, the homes would produce a peak wastewater flowrate ranging from 360 gpd for a three-bedroom residence, to 1,320 gpd for an 11-bedroom residence. The minimum total flow if all homes were constructed as three-bedroom residences would be 3,960 gpd, and construction of larger homes would increase the total flow at a rate of 120 gpd/bedroom. The wastewater from the residences would be individually treated in standard watertight septic tanks and discharged to on-site disposal fields. The type of disposal fields used depends upon the site conditions of each parcel, and would be designed based on County requirements. The types of disposal field systems identified by the applicant's engineer for the different lots include: mound, engineered fill, shallow sloping, and shallow trench pressure-dosed leachfields.

²⁰ New lots in Sonoma County must be sized to provide wastewater treatment and disposal for at least a three-bedroom residence. The standard wastewater flowrate is 150 gpd/bedroom, based upon Section I-6(h), 1979 Uniform Plumbing Code adopted by Sonoma County Code, Chapter 7. Sonoma County allows a low flow reduction of 20 percent (120 gpd/bedroom) for homes that will use water-saving devices.

**EXHIBIT 5.4-4
 DESIGN WASTEWATER FLOWRATE ESTIMATES**

Building/Activity	No. of Units	Unit Flow (gpd)	Projected Total (gpd)
Inn/Spa/Restaurant			
Inn – Lodging	50 rooms	150	7,500
Restaurant	125 seats	33	4,125
Spa	35 guests	25	875
	10 employees	15	150
			Total: 12,650
Winery/Events Pavilion			
Winery – Wine Making	10,000 cases		1,200
	5 employees	15	75
Winery - Tasting Room	100 guests	3	250
	4 employees	15	60
Events Pavilion	50 guests	5	250
	8 employees	15	120
			Total: 1,955
Spa/Laundry Graywater			
Spa	12 refills	450	5,400
Laundry	50 rooms	20	1,000
			Total: 6,400
Residential Lots			
3-Bedroom Homes ^a	11 homes	120/bedroom	3,960
			Total: 3,960

a The minimum home size would be a three-bedroom, per County standard. However, homes with more bedrooms may be built on lots that have greater capacity for wastewater disposal.

Source: Project Applicant

Impact 5.4-1 Wastewater Treatment Requirements May Not Be Met

If the individual package treatment facilities (FAST) are not properly maintained, operated, or monitored, waste discharge requirements may not be met. This would be a significant impact.

Wastewater from the inn/spa/restaurant and winery would be collected, treated, and disposed of using an individual package pretreatment facility (the FAST system). The system would be designed and constructed in accordance with the County requirements, and the Regional Board’s Waste Discharge Requirements (WDR) permit (to be obtained by the applicant following EIR approval). Operation of a “package” wastewater treatment system requires greater operator training and attention than

conventional on-site septic systems. Failure to properly maintain equipment and oversee process operations may contribute to poor performance and possible mechanical or treatment failures. Waste discharge requirements may not be met if the FAST system is improperly maintained, operated, or monitored. This would be a potentially significant impact.

Mitigation Measure 5.4-1 The FAST system shall be operated, maintained, and monitored by a California Licensed Grade Three Waste Water Treatment Plant Operator (Grade 3 Operator) and shall be under a valid Operational Permit with the County. Although the FAST system is a proven technology, and a Grade 3 Operator is not required under County or State regulations, a contract for operation, maintenance, and monitoring with a Grade 3 Operator is a recommended practice. The Grade 3 Operator shall maintain all components of collection, treatment, and disposal, and shall have access to all monitoring records (see **Responsibility and Monitoring**). Having a Grade 3 Operator maintain and monitor the system increases reliability and accountability for systems operations, thereby reducing the risk of a significant impact from poor performance and possible mechanical or treatment failures to a less-than-significant level. An operation and maintenance (O&M) manual, and an accident contingency plan shall be developed by the applicant. The O&M manual and contingency plan shall be subject to review and approval by the County.

Significance After Mitigation The implementation of Mitigation Measure 5-4.1 would reduce the impact to less-than-significant.

Responsibility and Monitoring To ensure proper operation of the FAST system, the applicant shall perform regular monitoring of the influent and effluent from both the inn/spa/restaurant and winery FAST systems. Specific monitoring requirements will be established in the WDRs adopted by the Regional Board. They are anticipated to include the following: influent and effluent flow rates, BOD (20 C, 5-day), TSS, settleable solids, total Kjeldahl nitrogen, nitrate-nitrogen, pH, and total and fecal coliform organisms.

The applicant shall prepare a groundwater sampling program, and install monitoring wells upgradient and downgradient of the proposed commercial wastewater disposal areas. Conditions of the groundwater monitoring program would be provided in the Regional Board's WDR. At a minimum, the groundwater monitoring program is anticipated to include analysis of the following constituents: nitrate-nitrogen, total Kjeldahl nitrogen, total and fecal coliform organisms.

Wastewater and groundwater monitoring data shall be provided and analyzed in monitoring reports to the County and Regional Board. Monitoring reports shall include all water quality monitoring performed, and shall be submitted to the County and Regional Board according to the adopted schedule in the WDRs.

Impact 5.4-2 Impacts From the Operation of New Wastewater Treatment Facilities

Constructing the winery and events pavilion wastewater treatment and disposal system for the smaller design flow could result in an undersized-system that would not adequately treat the wastewater during these peak conditions; this would be a potentially significant impact.

Wastewater treatment and disposal would occur on-site. No existing wastewater treatment or disposal facilities are located on the project site, thus the construction, operation, and maintenance of new on-site facilities would be necessary. The proposed project would include the construction of 11 septic systems (septic tanks and associated disposal fields) on the residential lots, two systems with pretreatment facilities and associated leachfields for the inn/spa/restaurant and the winery, and septic tank and advanced treatment facilities (aerator chamber and chlorine contactor) with associated

landscape irrigation lines and water features for treatment, storage, and disposal of the graywater from the spa and inn laundry. The winery is considered to be relatively small, at 10,000 cases per year.

The proposed design (peak) flow rates for the wastewater treatment and disposal systems on the project site are adequate, except for the winery. The applicant's engineer has proposed ²¹ a peak flow of 1,955 gpd from the winery, based on the assumption of a peak harvest at the winery, along with a full tasting room (100 patrons) and an event with 50 participants. However, the maximum use occupancy of the facilities could include a peak event with as many as 200 guests (with 15 employees) at the time of a peak harvest and full tasting room. Since SFBRWQCB guidelines call for full occupancy of all facilities to be considered as a basis for determining peak wastewater flow, this latter scenario should be planned for in the system design. Using this scenario, a peak flow rate of 2,810 gpd would be projected. As proposed in the preliminary design, the primary and reserve disposal area for the winery and events pavilion could provide treatment and disposal for up to 2,536 gpd. Based upon the preliminary design, there appears to be adequate space to modify the leachfield to accommodate at least 2,810 gpd. Constructing the winery and events pavilion wastewater treatment and disposal system for the smaller design flow could result in an undersized-system that may not provide adequate treatment and disposal capacity for the wastewater during these peak conditions. This would be a potentially significant impact.

Mitigation Measure 5.4-2 The winery wastewater treatment and disposal systems shall be designed to provide adequate treatment and disposal capacity for wastewater flows generated by a peak event at the winery, tasting room, and events pavilion, 2,810 gpd. This can be achieved either through the use of an appropriately-sized flow equalization tank to store and regulate excess peak flow entering the treatment system to match the proposed peak design capacity (1,955 gpd), or by sizing the treatment plant and disposal field for the peak flow conditions. The disposal capacity could be expanded to 2,810 gpd by adjusting the winery parcel boundary to the south to expand the leachfield into what would now be the inn/spa/restaurant disposal area, increasing the size of the disposal area, or by finding a more suitable disposal area on the winery and events pavilion parcel. The winery and events pavilion disposal field could be relocated farther north of its present location where soils are also suitable for onsite wastewater disposal; the development plan shows several winery-related buildings planned for this area. These proposed buildings would have to be relocated or removed to accommodate the disposal area.

Significance After Mitigation Implementation of Mitigation Measure 5.4-2 would reduce the impacts from operation of new wastewater treatment facilities to less-than-significant levels.

Responsibility and Monitoring For Mitigation Measures 5.4-2 design of the wastewater systems shall be submitted to the County for review and approval. Building related permits shall not be issued by the County until all of the required design elements have been met.

²¹ Revised On-Site Wastewater Disposal System Site Suitability Report, *op. cit.*

Impact 5.4-3 The Soil Type and Land Area for Some of the Proposed Residential Leachfields Would not be Capable of Supporting the Use of On-Site Wastewater Treatment and Disposal Systems

In general, the on-site treatment and disposal systems are located in areas with adequate land areas and soil type. However, two of the proposed residential leachfields are planned in areas that would not meet applicable setback requirements. Locating leachfields in areas that do not meet these requirements would be a significant impact.

The proposed project includes the development of land on the project site for wastewater treatment and disposal use. Wastewater treatment for both the commercial and residential portions of the project would use septic systems with land disposal. The efficacy of land disposal (such as through leachfields, and shallow subsurface irrigations lines) depends largely upon soil conditions, groundwater, slopes, and available land area. Soil conditions dictate soil percolation rates, while available land area is affected by setback requirements, groundwater separation requirements, and topographic constraints (such as steep slopes). The proposed residential and commercial wastewater disposal areas were assessed for suitable soil and groundwater conditions, applicable setback requirements, and slope.

Soil Conditions

The project applicant performed percolation tests on residential lots 1 through 4 of the 11 residential parcels in September 2001; percolation testing was performed on residential lots 5 through 11 in 1985 as part of the former Graywood Ranch Subdivision project. Percolation testing of the inn parcel was performed in February, March, and May 2001. Exhibit 5.4-1 summarizes the results of the percolation testing. The average percolation rate on each of the lots or disposal areas falls within the County requirement (60 MPI); however, some individual holes had percolation rates that equaled or exceeded 60 MPI.²² The few slow percolation test results would not limit wastewater disposal on any of the proposed residential or commercial disposal areas. However, rapid permeability rates and high groundwater were found along the southern boundary of the upper inn/spa/restaurant disposal field, and this would restrict land area available for disposal in this area. The applicant is aware of the restrictive nature of the soils,²³ and has not proposed the location of a disposal system along this boundary. Rapid percolation rates were also encountered on several residential lots, with the average percolation rate of the various lots ranging between 6 MPI and 37 MPI. Two holes on residential lot 2 had percolation rates of less than (i.e. faster than) 1 MPI; however, the remaining test holes produced percolation rates between 6 and 32 MPI. Residential lot 3 had an average percolation rate of 6 MPI, but many test holes exhibited relatively fast percolation rates, with three of the seven test holes having producing rates of 1 MPI or less.

Land Area Restrictions

The amount of land area available for wastewater disposal is affected by setback requirements, topographic constraints, and general area available for the disposal field. As presented in Adobe

²² A total of 73 test holes were dug on the eleven lots. Seven of the 73 percolation tests produced rates that equaled or exceeded 60 MPI; four of the percolation tests produced rates of less than 1 MPI.

²³ *Percolation Test Results Transmittal* to Sonoma County PRMD, Well and Septic Section. M.B. Van Fleet, February 12, 2002.

Associates, Inc., *Revised On-site Wastewater Disposal System Site Suitability Report*,²⁴ residential wastewater disposal fields have been sized to demonstrate the three-bedroom minimum disposal field capacity and 200 percent system replacement area typically used to demonstrate Sonoma County Code compliance, since no specific lot development plan exists for the proposed residential lots. Although the overall size of the individual lots is large, setback requirements and topographic features (slope) limit the location and, thus, the amount of suitable area for the leachfields.

Exhibit 5.4-2 includes the setbacks requirements by the County for septic systems and leachfields. Of the setbacks listed in the exhibit, only setbacks to wells, streams, cut banks and sharp changes in slope, and unstable landforms (such as landslides) are applicable to the project site. In general, the proposed leachfield areas meet the appropriate setback requirements. However, as discussed below, portions of two of the designated leachfields do not meet certain setback requirements; the placement of leachfields in these restricted areas would be a significant impact.

Wells Two new on-site wells have been constructed to provide water supply to serve the proposed project. The location of both wells provides adequate distance from proposed wastewater facilities in compliance with the 100-foot setback requirement.

Seasonal Streams and Ephemeral Drainages The SFBRWQCB requires a setback of 100 feet between leachfields and all streams and waterbodies. Accordingly, all disposal fields would be required to have a setback of at least 100 feet from Graywood Creek. The small, ephemeral drainages, which flow only in response to rainfall, require a 50-foot setback from leachfields. Septic tanks, which are required to be watertight, must meet a 50-foot setback from streams and drainageways. The proposed commercial and residential wastewater systems meet these setback requirements.

Cut Banks, Grade Breaks and Sharp Changes in Slope Cut banks from the construction of new roads and driveways and the improvement of existing unpaved roads require a setback of at least 25 feet from leachfield/septic tanks; in areas where the soil depth or the depth to groundwater is less than five feet, a setback of at least 50 feet is required. None of the soil profile tests performed on the residential lots suggest bedrock at a depth of less than five feet. The only identified residential leachfield not in compliance with the 25-foot setback limit is for residential lot 4, where the southwest corner of the disposal field does not meet the setback from the grade break. Therefore, the lot may not have capacity for a nine-bedroom house (as proposed), but would have adequate capacity for at least the minimum-size home (three-bedroom) required by the County.

Unstable Landforms (Landslides) Landslide locations on the project site were investigated by the EIR's geologist. It was concluded that there would not be a significant risk with the presence of landslides within the development areas.

Property Line A minimum five-foot setback is required between property lines and septic tanks/leachfields. If the property line is downslope of the leachfield, then at least a 25-foot setback must be met for alternative systems, such as mound systems and pressure-dosed systems. Standard leachfields must meet a setback of at least five feet from a downslope property line. All except one of the proposed septic systems for the residential lots meet the required property line setback limits. As presented in the plans, the leachfield for residential lot 3 crosses the downslope property line, and, therefore, does not meet the downslope setback limit from the property line as shown on the plans. To meet the setback requirement the property line should be adjusted or the leachfield should be relocated

²⁴ *Revised On-Site Wastewater Disposal System Site Suitability Report, op. cit.*

or resized. Because the leachfield for residential lot 3 has capacity for at least an 11-bedroom home, revision of the leachfield layout to meet the downslope property line setback would still allow this lot to have the capacity for at least a three-bedroom home per minimum County standards. Alternatively, setback requirement could be met by adjusting the downslope property line (to meet the 25-foot setback requirement) which would not reduce the wastewater disposal capacity of the lot.

Ground slope The County does not allow wastewater disposal systems on areas with a ground slope greater than 30 percent without a waiver. Additionally, where less than five feet of soil exists below the trench bottom, ground slope cannot exceed 20 percent. As proposed, all leachfields meet the ground slope requirements.

Mitigation Measure 5.4-3 Prior to construction, the on-site wastewater treatment and disposal facilities shall demonstrate that all setback requirements would be met. Exhibit 5.4-5 lists the leachfield areas that, as proposed, are not in conformance with setback requirements. These leachfields shall be revised, or, where appropriate, the property line may be adjusted to meet the setback requirement. A condition of approval shall be incorporated requiring that the development on each lot not exceed the available capacity of the leachfields as proposed, unless it is shown that the lots can provide additional capacity for leachfield disposal according to the County requirements.

**EXHIBIT 5.4-5
 LEACHFIELD PLANS TO BE REVISED DUE TO NONCOMPLIANCE WITH SETBACK
 REQUIREMENTS**

Lot	Number of Bedrooms	Code Compliance Issue	Action Required
Lot 3	11	Setback from downslope property line	Adjust property lines and/or revise the leachfield design
Lot 4	9	Setback from sharp change in slope (grade break)	Revise the leachfield design

Source: Questa Engineering Corporation

Significance After Mitigation Implementation of Mitigation Measure 5.4-3 would reduce the impact to a less-than-significant level.

Responsibility and Monitoring Project approval should be conditioned on incorporating Mitigation Measure 5.4-3 into the subdivision conditions. The revised leachfield plans and lot lines shall be subject to review and approval by the Sonoma County PRMD Well and Septic Section.

Impact 5.4-4 Potential Impacts Due to Exceeding Water Quality Standards or Waste Discharge Requirements, or Otherwise Resulting in Water Quality Degradation

Water quality impacts from wastewater disposal are primarily due to bacteriological effects and nitrate additions to the groundwater, particularly when the groundwater is used as a drinking water source. Bacteriological effects are generally eliminated by processes within the soil, addressed through proper siting, design, and system operation. Nitrates are not readily absorbed by the soil. The commercial disposal fields are located in a groundwater recharge area, with 14 neighboring wells located directly south and east of the project site. Groundwater nitrate levels downgradient of the disposal fields are projected to be near or in excess of drinking water standards unless the wastewater treatment system is designed and operated to provide substantial nitrogen removal. This would be a significant impact.

Nitrogen is an important chemical contaminant from on-site wastewater disposal systems. Nitrogen occurs in high concentrations in sewage, and converts readily to nitrate during percolation in the soil. Once in the nitrate form, it moves readily through the soil with water flow and is not removed to an appreciable degree by the soil. Dilution with other groundwater is then the main mechanism for reducing the nitrate concentration to acceptable levels. High concentrations of nitrate in drinking water can be toxic to infants. Nitrates ingested through food or water are converted to nitrites within the digestive system of infants.²⁵ Nitrite reacts with hemoglobin, preventing it from carrying oxygen.²⁶ Where development and leachfield sites are widely dispersed, nitrate effects are rarely a significant concern. However, where sewage disposal is concentrated, localized nitrate impacts on groundwater are more likely. To address this issue, the *Sonoma Country Inn* wastewater disposal plan was evaluated for possible effects on groundwater nitrate concentration as follows:

Methodology The nitrate loading analysis was completed using an annual chemical-water balance analysis as described in the document entitled *Assessment of Cumulative Impacts of Individual Waste Treatment and Disposal Systems*,²⁷ and also in the publication “Predicting Groundwater Nitrate-Nitrogen Impacts”.²⁸

General Approach The resultant nitrate concentration in the groundwater is estimated to be the weighted average or combined concentration due to wastewater loading and deep percolation of rainfall contributed from the watershed (recharge) area. The analysis was performed for average annual conditions, and included nitrate-nitrogen contributions from the proposed commercial wastewater system and rainfall-recharge dilution from the entire contributing recharge area. The analysis was largely based upon a nitrate plume study completed by Adobe Associates.²⁹

Recharge Area The recharge area generally encompasses a 22.8-acre area on the southern portion of the property, where the commercial wastewater disposal areas are proposed.

²⁵ *Theory and Practice of Water and Wastewater Treatment*. Ronald L. Droste, 1997.

²⁶ *Ibid*

²⁷ *Assessment of Cumulative Impacts of Individual Waste Treatment and Disposal Systems, Final Report*, Prepared for the North Coast Regional Water Quality Control Board, RAMLIT Associates, 1982.

²⁸ “Predicting Groundwater Nitrate-Nitrogen Impacts.” *Groundwater*, Norman N. Hantzsche and John Finnemore. Vol. 30, No. 4, July-August 1992.

²⁹ *Groundwater Study for Sonoma Country Inn*, Prepared for Graywood Ranch, LCC., M. Van Fleet, 2001.

Wastewater Flows Average wastewater flows of approximately 10,840 gpd and 1,405 gpd at the inn/spa/restaurant and winery were used, respectively.

Wastewater Nitrogen Concentrations Total nitrogen concentrations in the wastewater effluent at the inn/spa/restaurant and the winery/events pavilion was assumed to be 32.4 mg-N/L and 28 mg-N/L, respectively, in accordance with information provided by the applicant's engineer.³⁰ The effluent quality estimate for each system is a weighted average based on flows and nitrogen levels from each of the commercial development components.³¹

Background Nitrogen Concentration A value of 1.0 mg-N/L is assumed for the nitrogen concentration of percolating rainfall-recharge water. The background concentrations of the nitrogen in the nearby springs and on-site wells ranged from less than 0.1 mg-N/L to 1.8 mg-N/L.

Soil Denitrification Total nitrogen removal in the upper soil zones (via denitrification) is estimated to be 10 and 15 percent of the total nitrogen for mound system soils and alluvial soils, respectively.

Deep Percolation (Recharge) Deep percolation includes water from rainfall and wastewater disposal, less that which is lost to evapotranspiration and runoff. Average rainfall in the Kenwood area ranges from approximately 30 to 37 inches per year (57 to 70 acre-feet (AF) per year in the 22.8-acre recharge area), depending upon the rainfall data source.³² Approximately 10.8 AF of water is expected to percolate into the recharge area per year, based on average daily flow rates. Average annual evapotranspiration is approximately 15.4 in/year (30 AF/yr), based on evapotranspiration data from Santa Rosa and Sonoma.³³ Runoff in the nitrate study area ranges from roughly 20% of the average annual rainfall in the upper nitrate study area (where slopes are steeper) to nearly zero in the flatter portion of the study area

Results and Discussion Exhibit 5.4-6 summarizes the calculations and results of the nitrate loading analysis. Presented are calculations for the wastewater systems impacts for different effluent nitrogen concentrations: (1) basic levels identified by the applicant's engineer; and (2) reduced nitrogen concentration levels of 15 mg-N/L that can be reliably achieved with a FAST system.

Using the wastewater effluent quality values provided by the applicant,³⁴ the maximum projected long-term groundwater nitrate-nitrogen concentration leaving the most southern boundary of the project site was estimated to range from 6.7 to 8.7 mg-N/L, depending upon average rainfall assumptions; the concentration of nitrate in the groundwater beneath the southeastern property

³⁰ *Revised On-Site Wastewater Disposal System Site Suitability Report, op. cit.*

³¹ The applicant's estimate of effluent quality is conservative and does not reflect effluent quality levels that could be achieved by the FAST system proposed for the project. Effluent concentrations of 10 to 15 mg-N/L (total nitrogen) are achievable.

³² Average annual rainfall from the Sonoma County Water Agency is 37 inches per year; the Western Regional Climate Center and California Data Exchange Center report average annual precipitation at their Sonoma (WRCC) and Santa Rosa (CDEC) stations at approximately 30 inches per year.

³³ *Climate of Sonoma County*, C.R. Elford, U.S. Department of Commerce, Weather Bureau, 1964.

³⁴ *Revised On-Site Wastewater Disposal System Site Suitability Report, op. cit.*

boundary would range from approximately 8.7 to 11.1 mg-N/L. The concentration immediately downslope of the standard disposal fields would be approximately 12.2 to 14.8 mg-N/L. A similar analysis was performed to determine the total nitrogen that could be expected downgradient of the reserve area, in the event that this area is used for wastewater disposal in the future. Total nitrogen concentrations directly downgradient of the expansion area ranged between 8.1 and 10.4 mg-N/L. The drinking water standard for nitrate (as nitrogen) is 10 mg-N/L. Therefore, it can be seen from this analysis that the projected nitrate-nitrogen concentration in the groundwater immediately downgradient and at the southeastern property boundaries may reach levels that approach or exceed the drinking water limit. Since no groundwater wells are planned to be installed downstream of the commercial disposal area, there would be no significant identifiable impact to drinking water quality due to nitrate loading on the project site. However, the nitrate concentration of the groundwater pumped by the wells on neighboring properties south and southeast of the property boundary may be elevated to levels that approach or exceed drinking water standards. This would be a significant impact. As can be seen from the results for an assumed effluent concentration of 15 mg-N/L, the groundwater nitrate concentrations can be reduced to safe levels (well below drinking water standards) if the FAST systems are designed and operated for nitrogen removal.

Mitigation Measure 5.4-4 To mitigate impacts to groundwater quality, the proposed FAST wastewater pretreatment systems shall be designed and operated for nitrogen removal to ensure that the nitrate concentration of the commercial wastewater effluent entering the disposal fields would not result in a groundwater quality that exceeds the drinking water standard at any property boundary. This requirement can be achieved safely by providing a final effluent nitrogen concentration of 15 mg-N/L, which is a reasonable treatment standard for a FAST system. The proposed FAST treatment systems shall be designed and operated to achieve effluent total nitrogen concentrations below 15 mg-N/L.

Significance After Mitigation Implementation of Measure 5.4-4 would reduce the impact to a less-than-significant level.

Responsibility and Monitoring The applicant shall design and operate the FAST treatment systems so that they provide an effluent with a total nitrogen concentration less than 15 mg-N/L. The revised design shall be submitted to the County and reviewed by a qualified engineer to assure the system would meet the required concentration.

The applicant shall prepare a groundwater sampling program, and install monitoring wells upgradient and downgradient of the proposed commercial wastewater disposal areas. Conditions of the groundwater monitoring program would be provided in the Regional Board's WDR. At a minimum, the groundwater monitoring program is anticipated to include analysis of the following constituents: nitrate-nitrogen, total Kjeldahl nitrogen, total and fecal coliform organisms.

Wastewater and groundwater monitoring data shall be provided and analyzed in monitoring reports to the County and Regional Board. Monitoring reports shall include all water quality monitoring performed, and shall be submitted to the County and Regional Board according to the adopted schedule in the WDRs.

Exhibit 5.4-6
Nitrate Loading Analysis Summary and Results

Formula:				
$N_c = \frac{N_{isr} W_{isr} (1 - d_1) + N_{we} W_{we} (1 - d_2) + N_b R}{W_{isr} + W_{we} + R}$				
<i>where:</i>				
N_c = Resultant groundwater nitrate concentration (mg-N/L)				
N_{isr}, N_{we} = Inn/spa/restaurant and winery/events pavilion effluent nitrogen concentration, respectively (mg-N/L)				
N_b = Background groundwater nitrate concentration (1.0 mg-N/L)				
W_{isr}, W_{we} = Average annual wastewater volume at inn/spa/restaurant and winery/events pavilion, respectively (AFY)				
d = Soil denitrification rate (0.10 to 0.15)				
R = Annual average rainfall percolation (AFY)				
Results:	Proposed (without Nitrogen Removal)		Mitigated (with Nitrogen Removal)	
Variable	Inn/Spa/ Restaurant	Winery	Inn/Spa/ Restaurant	Winery
Effluent Nitrogen Concentration, N_w (mg-N/L)	32.4	28.0	15.0	15.0
Wastewater Volume, W (AFY)	9.25	1.57	9.25	1.57
Rainfall Percolation, R (AFY)	Proposed (without Nitrogen Removal)		Mitigated (with Nitrogen Removal)	
Southern Property Line	25.9 to 38.5		25.9 to 38.5	
Southeastern Property Line	17.1 to 25.5		17.1 to 25.5	
Immediately Downgradient of Disposal Area	9.6 to 14.3		9.6 to 14.3	
Reserve Area	20.8 to 31.0		20.8 to 31.0	
Resultant Groundwater Nitrate Concentration, N_c (mg-N/L)	Proposed (without Nitrogen Removal)		Mitigated (with Nitrogen Removal)	
Southern Property Line	6.7 to 8.7		3.6 to 4.5	
Southeastern Property Line	8.7 to 11.1		4.5 to 5.6	
Immediately Downgradient of Disposal Area	12.2 to 14.8		6.1 to 7.2	
Reserve Area	8.1 to 10.4		4.2 to 5.2	

Source: Questa Engineering

Impact 5.4-5 Impacts to Groundwater Hydrology

Both a general and localized rise in water table can occur where there is a high density of septic systems. In this case, a general rise in the water table would not be expected, since the proposed project would rely upon on-site groundwater resources for its water supply. Therefore, there would be no net increase in the amount of water replenishing to the groundwater beneath the site. A localized rise in the water table (called groundwater mounding), occurs when systems are clustered together over a small area. Groundwater mounding would not occur as a result of wastewater disposal on the project site. This would be a less-than-significant impact.

A general rise in the water table can occur where there is a high density of septic systems above a groundwater recharge zone; this rise would be due to the relative volume of wastewater discharged as compared with other background sources of groundwater replenishment and extraction. Since the proposed project would rely upon groundwater for its water source, the proposed annual wastewater flows from the project would be less than the water withdrawn from on-site wells; therefore, an area-wide increase in groundwater levels would not be expected. This is a less-than-significant impact.

Groundwater mounding is a localized increase of groundwater levels; it can result in local changes to groundwater flows and can interfere with the performance of neighboring leachfields and the leachfield itself. Localized groundwater mounding is of potential concern when individual leachfields are in close proximity to one another. A second concern is the potential to create saturated soil conditions that increase the risk of untreated wastewater reaching fractured zones of the underlying rock. This is a distinct possibility in any cluster leachfield sites within areas of generally shallow soils over bedrock. Although the proposed leachfields would be located in shallow soils over bedrock, they are not clustered; therefore groundwater mounding would not occur as a result of residential wastewater disposal.

Mitigation Measure 5.4-5 No mitigation would be required.

Impact 5.4-6 Cumulative Impacts from Wastewater Treatment and Disposal

Potential cumulative impacts that may arise from the use of on-site sewage disposal systems relate specifically to changes in groundwater hydrology or water quality. Background nitrate levels in the cumulative study area are relatively low compared to the drinking water standard (10 mg-N/L), and it is unlikely that additional nitrate loading from wastewater disposal would significantly increase regional groundwater nitrate concentrations. Cumulative impacts to groundwater hydrology and water quality would therefore be less-than-significant. Further, the proposed project's contribution to any potential cumulative impacts would be less than considerable, due to mitigation measures required by the EIR, and, therefore, the cumulative impact would be less than significant.

In addition to the existing commercial, agricultural, and residential development in the vicinity of the project site, 12 additional development projects (not including the *Sonoma Country Inn*) are planned. The cumulative development assumptions prepared for this EIR include projects that are approved, under review, under construction, or are reasonably expected to be proposed in the vicinity of the project site.³⁵ These projects, or portions thereof, are located in the groundwater recharge area that underlies the flatter topography of the valley. Eleven of the projects, including the *Sonoma Country*

³⁵ See *Section 3.3 Cumulative Development Assumptions* for further discussion of the cumulative projects.

Inn, would increase the transient and/or permanent population within recharge area (for instance, public tours, wine tasting and special events, or residential use), and six of the projects would increase winery production capacity. The increased population and winery production would result in additional wastewater disposal in the vicinity. Potential cumulative impacts that may arise from the use of on-site sewage disposal systems relate specifically to changes in groundwater hydrology or water quality.

Changes in groundwater hydrology include a general rise in the water table, as well as localized groundwater mounding (see Impact 5.4-5). Since many of the projects would most likely rely upon on-site wells, the amount of water replenished by wastewater disposal would not exceed that which is extracted; therefore, a general rise of the water table is unlikely. This would be a less-than-significant impact.

Groundwater mounding is a localized increase of groundwater levels; it can result in local changes to groundwater direction and can cause neighboring leachfields to fail as groundwater levels rise near the surface and create saturated soils conditions. Localized groundwater mounding is of potential concern when individual leachfields are in close proximity to one another. The distance between proposed projects in the cumulative study area is relatively large; therefore groundwater mounding is unlikely to have a cumulatively significant impact. However, if clustered septic systems are proposed for other projects, localized groundwater mounding may occur. Impacts due to localized groundwater mounding would be evaluated and mitigated on an individual-project basis, and are not within the scope of this EIR.

As discussed in Impact 5.4-4, impacts to groundwater quality are primarily due to nitrate loading. Many of the projects would rely on on-site wastewater treatment and disposal, and, therefore would contribute to an increase in the background nitrate levels in the groundwater basin. Current nitrate sources include fertilizers used for agricultural practices, such as vineyards, and existing septic systems at commercial and residential sites; however, background nitrate levels in the vicinity are not known to be elevated. Given the low background nitrate levels in the vicinity, and given that projects involving new or expanded on-site wastewater disposal facilities would be required to demonstrate that wastewater effluent would not cause the downgradient nitrate levels at the project site boundary or at neighboring wells to increase to a level greater than the drinking water standard (10 mg-N/L), the cumulative impact on groundwater quality from nitrate additions would be less-than-significant.

In addition, with the implementation of Mitigation Measures 5.3-1, 5.3-4(a-c), 5.4-3, and 5.4-4, the proposed project's contribution to hydrology and water quality impacts would be reduced to a less-than-significant level. The proposed project's contribution would not be cumulatively considerable and therefore cumulative impacts to hydrology and water quality would be less-than-significant.

Mitigation Measure 5.4-6 No mitigation would be required.

5.5 WATER SUPPLY

Water Supply – The Setting

INTRODUCTION

Implementation of the proposed project would include the use of two recently constructed wells on the project site to provide a water supply for the proposed inn/spa/restaurant, the winery, and the residential units. The approximate location of the wells is shown in Exhibit 5.5-1. The upper well (“Resort Well”), located immediately west of the proposed inn/spa/restaurant site, would provide water for the inn/spa/restaurant and the 11 proposed residences. The lower well (“Winery Well”), located just north of the proposed winery and events pavilion, would provide water for the winery and the events pavilion.

Two background water supply studies prepared for the project applicant were reviewed as part of the assessment of the water supply potential at the project site: E.H. Boudreau, *Geology and Ground Water Potential of the Auberge Resorts Property, Kenwood California*, October 3, 2000; and Richard C. Slade & Associates LLC, Consulting Groundwater Geologists (RCS), *Results and Analysis of 48-Hour Constant Rate Pumping Test – Resort Well at Graywood Ranch*, December 2002. In addition, a California Department of Water Resources’ (DWR) evaluation of the groundwater supply in Sonoma County¹ was reviewed for information pertinent to the project area.

EXISTING WATER SUPPLY

Prior to the construction of the Resort Well and Winery Well, no existing wells were located on the project site. The Resort Well and Winery Well were constructed by Weeks Drilling & Pump Company in July and September 2002, respectively. The Resort Well was constructed to a depth of approximately 540 feet below ground surface (bgs), and the Winery Well was constructed to depth of approximately 550 feet bgs. The location of the Winery Well was changed due to excessive caving during the drilling of the pilot hole.² The final Winery Well location is approximately 400 feet southeast of the original location. There are no springs located on the project site; however natural springs are located on neighboring properties, as discussed below.

¹ *Evaluation of Ground Water Resources: Sonoma County, Volume 1: Geologic and Hydrologic Data*, Department of Water Resources, Robert Ford, 1975.

² *Results and Analysis of 48-Hour Constant Rate Pumping Test –Resort Well at Graywood Ranch*, Richard C. Slade & Associates, LCC, December 2002.

EXHIBIT 5.5-1

GROUNDWATER

Geologic Features

Information on the underlying geology of the project site was described in Boudreau's 2000 study. The 1975 DWR report described the characteristics of the geology in the project vicinity. Unless otherwise noted, the following descriptions of the geologic features are from the DWR report.

Three separate geologic units underlie the project site and vicinity: Alluvium, the Glen Ellen Formation, and the Sonoma Volcanics.³ The units differ in age, origin, rock types, thickness and lateral extent, structure, and water-bearing characteristics. The Glen Ellen Formation and the Sonoma Volcanics are the main water-bearing formations, with a specific yield of approximately five percent and three percent, respectively. The specific yield is the volume of water per unit volume of aquifer that can be extracted by pumping. It is an important factor in water availability, and is one of the key factors that is used to estimate the actual volume of groundwater available.

Alluvium The alluvial fan deposits (Alluvium) are the youngest of the three units. This unit generally consists of loosely consolidated gravel, sand, silt, and clay that has been transported to and deposited in the valley by stream activity over the past several thousand years. The Alluvium on the project site is at its maximum thickness in the southern section of the property, where the depth is up to approximately 100 feet.⁴

Glen Ellen Formation The Glen Ellen Formation underlies the Alluvium in a series of lenses of moderately consolidated gravel, sand, and clay. This unit is approximately three million years old, and has a maximum thickness of roughly 800 feet at the center of the valley. The water productivity of the Glen Ellen Formation is highly variable. According to the DWR report, the most successful wells drilled in the Glen Ellen Formation in the Rincon Valley, Kenwood Valley, and Valley of the Moon areas tap the underlying materials of the Sonoma Volcanics.

Sonoma Volcanics The Sonoma Volcanics are the oldest of the three units (three to ten million years old), and underlie the Glen Ellen Formation; both the Resort Well and the Winery Well are constructed in this formation. The Sonoma Volcanics consist of the lava flows and beds of soft to hard tuff (volcanic ash). Sediments are also present, since the volcanism was not continuous. The maximum thickness of the Sonoma Volcanics is well over 1,000 feet. The capacity of water wells drilled into the Sonoma Volcanics is highly variable and unpredictable. In general, successful wells drilled into this unit should yield from ten to 50 gallons per minute (gpm), with drawdowns⁵ of ten to 120 feet. Domestic wells ranging in depth up to 500 feet are not uncommon in the Sonoma Volcanics, due to the large drawdowns and standing water to depths of 200 to 300 feet. The specific capacity of

³ *Geology & Ground Water Potential of the Auberge Resorts Property, Kenwood, California*, E.H. Boudreau, October 3, 2000.

⁴ *Geology & Ground Water Potential of the Auberge Resorts Property, Kenwood, California, op. cit.*, and *Evaluation of Ground Water Resources: Sonoma County, Volume 1: Geologic and Hydrologic Data, op. cit.*

⁵ Drawdown is the lowering of the water surface of a well, the water table, or the piezometric surface adjacent to the well, as a result of the pumping of the water.

wells studied in the DWR report ranged from 0.75 to 26.2 gallons per minute per foot of drawdown (gpm/ft ddn). By comparison, the Resort Well has a specific capacity of approximately 0.68 gpm/ft ddn.⁶ The specific capacity (different from specific yield) can be used to estimate the drawdown that would be produced at different pumping rates. For example, the specific capacity of a well that delivers 30 gpm with 60 feet of drawdown would be 0.5 gpm/foot. At 40 gpm, the drawdown would be $40/0.5 = 80$ feet.

GROUNDWATER IN STORAGE

The Glen Ellen and the Sonoma Volcanics are the main water-bearing formations under the project site. The specific yields of the Glen Ellen and Sonoma Volcanics are approximately five percent and three percent, respectively.⁷ The Glen Ellen formation underlies approximately 25 acres of the project site, while the Sonoma Volcanics underlie approximately 170 acres. Boudreau estimated there to be about 600 acre-feet⁸ of water in storage in the Glen Ellen formation, and approximately 2,500 acre-feet of water in storage the Sonoma Volcanics. Therefore, approximately 3,000 acre-feet of water is estimated to be in storage under the project site.

NEIGHBORING WELLS AND SPRINGS

Exhibit 5.5-1 shows the approximate location of the neighboring wells and springs, based upon maps provided by Boudreau⁹ and RCS.¹⁰ Comments from some well owners in the project vicinity indicate they have experienced problems with decreased well production.¹¹ While problems with decreased well production over a large area may indicate problems with the supplying aquifer, the proposed project and all neighboring wells draw from the same major groundwater basin, which has a known plentiful supply of groundwater. The groundwater basin is located in the valley floor and lowlands, extending from south of Kenwood into and beyond Santa Rosa. Given that the wells are located in this major groundwater basin, problems with individual well production could be a product of poorly designed, poorly constructed, or poorly maintained wells.

Boudreau identified nineteen wells located on properties adjacent to or near the project site. No wells were identified to the north of the project site, and only one was identified to the west; most wells were identified in areas south and east of the property boundary. The neighboring wells range in depth from 25 to 400 feet, with the exception of one well, which is drilled to a depth of approximately 800

⁶ *Results and Analysis of 48-Hour Constant Rate Pumping Test –Resort Well at Graywood Ranch, op. cit.*

⁷ *Geology & Ground Water Potential of the Auberge Resorts Property, Kenwood, California, op. cit.*

⁸ One acre-foot of water is equal to 325,851 gallons of water. This measurement refers to the amount of water covering one acre to a depth of one foot.

⁹ *Geology & Ground Water Potential of the Auberge Resorts Property, Kenwood, California, op. cit.*

¹⁰ *Results and Analysis of 48-Hour Constant Rate Pumping Test –Resort Well at Graywood Ranch, op. cit.*

¹¹ For example see letter to Paula Stamp, Sonoma County Permit Resources Management Department from John Foster, May 6, 2002, a copy of which is in **Appendix 8.5**.

feet. The wells closest to the project site are identified as the Old Bargiacchi Well,¹² the New Bargiacchi Well, the Flats Well,¹³ and the Graywood Ranch Well in Exhibit 5.5-1. These wells are located in the same geologic formation as the Resort and Winery Wells, and likely draw water from the same aquifer systems.¹⁴ The Flats Well is used for vineyard irrigation, and the other three nearby off-site wells are used for domestic water sources. Exhibit 5.5-2 summarizes the characteristics of the nearby off-site wells.

**EXHIBIT 5.5-2
 OFF-SITE WELL CHARACTERISTICS**

Well	Distance from (feet)		Depth ^a (feet)	Reported Yield ^a (gallons per minute)	Water use ^b
	Resort Well	Winery Well			
Graywood Ranch	1,130	800	525	50	Domestic
New Bargiacchi	1,970	1,400	Unknown	Unknown	Domestic
Old Bargiacchi	1,900	900	200	30	Domestic
Flats (Gemini)	2,600	1,100	300	100	Irrigation (Vineyard)

a *Geology & Ground Water Potential of the Auberge Resorts Property, Kenwood, California*, E.H. Boudreau, October 3, 2000.

b *Results and Analysis of 48-Hour Constant Rate Pumping Test – Resort Well at Graywood Ranch*, Richard C. Slade & Associates, Consulting Groundwater Geologists, December 2002.

Source: Questa Engineering

Several natural springs are located on neighboring properties. The springs, identified as Foster Spring, Harper Spring, and Graywood Ranch Spring in Exhibit 5.5-1, have provided water to homes and cabins on the neighboring lots since the early 1900s.¹⁵ The springs are on properties adjacent to the eastern and western boundaries of the project site. Flows in these springs were monitored by Adobe Associates before and during the pumping test. The flows ranged between approximately 0.6 and 1.5 gallons per minute (gpm) in Graywood Ranch Spring, and between approximately 0.3 and 0.4 gpm in Harper Spring; flow rates in Foster Spring were essentially negligible. The large range of the

¹² The Old Bargiacchi Well is identified as the “Bargiacchi Well” in *Geology & Ground Water Potential of the Auberge Resorts Property, Kenwood, California*, *op. cit.*

¹³ The Flats Well is likely the “Gemini Well” identified in *Geology & Ground Water Potential of the Auberge Resorts Property, Kenwood, California*, *op. cit.* however this could not be confirmed.

¹⁴ *Results and Analysis of 48-Hour Constant Rate Pumping Test –Resort Well at Graywood Ranch*, *op. cit.*

¹⁵ Questa Engineering conversation with John Foster, 2002.

flowrates in Graywood Ranch Spring was attributed to changes in weather during the monitoring period; the highest flow rates were measured directly before and during the pumping test on Graywood Ranch Spring.

Water Quality

Ford ¹⁶ and RCS ¹⁷ described the water quality of the groundwater found in the project area and at the project site, respectively. Boudreau ¹⁸ briefly discussed some of the characteristics of the local groundwater quality, based upon neighboring wells in the project area. The study performed by RCS, which provides the most site-specific background water quality information, included some water quality testing of on-site wells and the neighboring springs. Exhibit 5.5-3 summarizes the results of the water quality testing performed by RCS at the Resort Well, and also includes the current State drinking water standards, where applicable.

**EXHIBIT 5.5-3
 WATER QUALITY SUMMARY, RESORT WELL**

Constituent	State Drinking Water Standard ^a(mg/L)	Resort Well
Total Dissolved Solids	500	180
Total Hardness	No Standard	44
Iron	0.3	Non-detectable ^b
Silica	No Standard	90
Nitrate (as Nitrogen)	10	1.8
Sodium	No Standard	12
Chloride	250	8
Manganese	0.05	0.14

a Nitrate is the only primary drinking water standard; the other standards are consumer acceptance limits (secondary standards).

b The detection limit for dissolved iron is 0.05 mg/L.

Source: *Results and Analysis of 48-Hour Constant Rate Pumping Test –Resort Well at Graywood Ranch*, Richard C. Slade & Associates, LCC, December 2002.

¹⁶ *Evaluation of Ground Water Resources: Sonoma County, Volume 1: Geologic and Hydrologic Data, op. cit.*

¹⁷ *Results and Analysis of 48-Hour Constant Rate Pumping Test –Resort Well at Graywood Ranch, op. cit.*

¹⁸ *Geology & Ground Water Potential of the Auberge Resorts Property, Kenwood, California, op. cit.*

As described by Ford,¹⁹ the groundwater of the Sonoma Volcanics is generally a “satisfactory quality” sodium-bicarbonate water. Water quality testing by RCS²⁰ revealed that the water from the Resort Well has a mixed-calcium-magnesium-bicarbonate character. However, the neighboring springs had a sodium-bicarbonate character, suggesting the off-site springs are likely not directly connected to the aquifer supplying the Resort Well.²¹ Of the constituents that were tested, most were at levels well below the State drinking water standards. Although wells in the area often report high concentrations of iron,²² the dissolved iron concentration at the Resort Well was non-detectable. However, manganese concentrations were above the State drinking water standard. Water quality testing of the Winery Well was not performed, though given its proximity to the Resort Well and depth, it is likely that the Winery Well would have water quality characteristics similar to the Resort Well.

REGULATORY REQUIREMENTS

Sonoma County General Plan Policy RC-3h requires proof of adequate groundwater for discretionary projects in Class III and IV areas (areas of marginal groundwater availability or with low or highly variable water yield). The proposed *Sonoma Country Inn* is located in a Class I area, which is an area defined as a major groundwater basin; therefore, development in this area would not require a verified water supply because of the known plentiful supply of groundwater. However, in response to public comments during the scoping process, a pumping test by RCS was performed to verify the water supply. The results of the pumping test are described in the discussion of impacts which follows.

Water Supply – Significance Criteria

The water supply analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant water supply impact if it would:

Water

- x Not have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.
- x Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

¹⁹ *Evaluation of Ground Water Resources: Sonoma County, Volume 1: Geologic and Hydrologic Data, op. cit.*

²⁰ *Results and Analysis of 48-Hour Constant Rate Pumping Test –Resort Well at Graywood Ranch, op. cit.*

²¹ *Ibid.*

²² *Geology & Ground Water Potential of the Auberge Resorts Property, Kenwood, California, op. cit.*

Groundwater

- x Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

Water Supply – Impacts and Mitigation

Impact 5.5-1 Adequacy of Water Supply

The pumping test verified that the Resort Well can produce enough water for both the proposed inn/spa/restaurant (including the winery and events pavilion) and residential development. Annual groundwater recharge in the area easily exceeds the projected annual water demand, meaning the aquifer would continue to be sufficiently replenished, and will not be overdrafted as a result of the proposed project. Further, water quality testing has shown that the groundwater is of suitable quality for the proposed domestic and irrigation water needs of the project. Therefore, the Resort Well and Winery Well would be suitable to supply an adequate quantity and quality of water for the proposed project. This impact would be less-than-significant.

An adequate supply of good quality water is essential to the creation of the proposed project, since there are no existing municipal water supplies that could be extended to serve the project. The failure to provide a reliable supply of water could lead to shortages during periods of drought or, potentially, the inability to obtain development permits. *Sonoma County General Plan* Policy RC-3h is intended to minimize this possibility through the requirement of a groundwater evaluation study and proof of water in Class III and Class IV areas. Although the project site is in a Class I area (major groundwater basin) and both wells would pump from this area, an aquifer (pumping) test was performed by RCS to verify the adequacy of the water supply.

The average water demand estimates were based upon figures provided by Adobe Associates. The estimates for the resort were derived by assumptions that average water demand is equal to approximately 75 percent of the project peak daily wastewater flow. Additionally, landscape irrigation demand for the resort was assumed to be 3,000 gpd (excluding the amount supplied from recycled graywater). For the residences, use was assumed to be 120 gpd/bedroom for domestic uses and 200 gpd for landscape irrigation. For the winery and events pavilion, water demand was assumed to be 90 percent of the peak wastewater flow, plus an allowance of 3,000 gpd for landscape irrigation. An itemized summary of water demand is given in Exhibit 5.5-4.

The Resort Well would serve the proposed inn/spa/restaurant, the 11 residential lots, and landscaping around these facilities. The estimated water demand of the Resort Well is approximately 26,000 gallons per day (gpd), or roughly 29 acre-feet of water per year (AF/year). Converted to a pumping rate, the Resort Well would have to produce approximately 24 gallons per minute (gpm), assuming the well would be pumped 75 percent of the time (18 hours per day). The Winery Well would supply approximately 5,000 gpd (5.6 AF/year) for use at the winery and events center and associated landscaping needs, requiring a pumping rate of approximately 5 gpm (18 hours per day). Landscape irrigation needs are approximate, since the exact landscaping plan has not yet been developed. The applicant has stated that they may incorporate low water use plants, and would use some recycled graywater from the spa and laundry facilities for irrigation needs.

From a water balance perspective, the annual recharge on the project site exceeds the projected amount of water withdrawal. All available information indicates that there is more than sufficient groundwater available on the project site to meet the estimated water demand. The total annual average water demand for the proposed project is approximately 35 AF/year (29 AF/year for Resort Well + 6 AF/year for Winery Well). In contrast, post-development groundwater recharge (the annual amount of water replenished to the aquifer) in the Resort and Winery Well recharge area is estimated to be in the range of approximately 87 to 130 AF/year (see Impact 5.5-3). Therefore, groundwater extraction would amount to about 25 to 40 percent of local (project site) groundwater recharge volume, assuring that sufficient water would continue to replenish the aquifer every year.

EXHIBIT 5.5-4
AVERAGE WATER USE ESTIMATES AT SONOMA COUNTRY INN

	Water Use Rate	
	Gallons per day	Acre-feet per year ^a
Resort Well		
Inn/Spa/Restaurant		
Commercial Use	9,500	10.6
Spa/Laundry	4,800	5.4
Landscape Irrigation	3,000	3.4
Residential Development		
Residential Use	6,600	7.4
Landscape Irrigation	2,200	2.5
Subtotal	26,100	29.2
Winery Well		
Winery and Events Pavilion	2,000	2.2
Landscape Irrigation	3,000	3.4
Subtotal	5,000	5.6
Total	31,100	34.8

^a Gallons per day times 365 (days per year) divided by 325,851 (gallons in one acre-foot of water) equals acre feet per year.

Source: Questa Engineering

To verify the ability to extract water from the aquifer, a 48-hour pumping test was completed by RCS in December 2002. The pumping test was performed on the Resort Well and showed that the well is capable of sustaining an average pumping rate of 30 gpm (the total combined pumping rate that would

be required of the Resort Well and the Winery Well). This pumping rate is comparable to other well yields sustained in the area, which range from approximately 30 to 100 gpm.²³

The pumping test verified that the Resort Well can produce enough water for both the proposed inn/spa/restaurant and residential development, as well as the winery and events pavilion. Annual groundwater recharge in the area easily exceeds the projected annual water demand, meaning the aquifer would continue to be sufficiently replenished, and would not be overdrafted as a result of the project. Further, water quality testing has shown that the groundwater is of suitable quality for the proposed domestic and irrigation water needs of the project. Therefore, the Resort Well and Winery Well would be suitable to supply an adequate quantity and quality of water for the proposed project. This is a less-than-significant impact.

Mitigation Measure 5.5-1 No mitigation would be required.

Impact 5.5-2 Impacts from the Construction of New or Expanded Water Treatment Facilities

The proposed project would draw water from on-site groundwater sources. Since no new or expanded water treatment facilities would be required, this would not be an impact.

The water supply for the proposed project would come from two recently drilled on-site water wells. No other sources of water are proposed for the project (such as from an existing municipal water supply), therefore no new or expanded water treatment facilities are needed.

Mitigation Measure 5.5-2 No mitigation would be required.

Impact 5.5-3 Impacts to Groundwater Recharge and Aquifer Level

Compared to the estimated pre-development recharge volumes over the entire site, the proposed project is estimated to result in an approximate 15 to 20 percent reduction in the net on-site recharge of the groundwater basin. Averaged over the approximate 180-acre project site, the net annual reduction in groundwater recharge would amount to about 0.12 to 0.16 acre-feet per acre, or 1.5 to 2.0 inches. This impact would be less-than-significant.

Groundwater in the project area comes from percolation of local rainfall. The area over which rainfall infiltrates and percolates to the groundwater is called a groundwater recharge area. Recharge areas are found on mountains, along foothill slopes, and on valley floors.²⁴ Impacts to groundwater recharge are primarily caused by decreasing the amount of area available for recharge. The reduction of area occurs when existing pervious areas are covered by impervious surfaces, such as paved roadway, parking lots, and driveways, or buildings. The amount of recharge can also be reduced when existing drainage patterns are altered and stormwater that would normally infiltrate in the recharge area is routed outside of the recharge area. Lastly, the effective recharge volume is reduced by pumping activities. The proposed project includes the construction of approximately 18.1 acres of new impervious surface.²⁵ Currently, no impervious areas are located on the project site.

²³ *Ibid.*

²⁴ *Evaluation of Ground Water Resources: Sonoma County, Volume 1: Geologic and Hydrologic Data, op. cit.*

²⁵ The estimate of new impervious surface includes paved roadways, driveways, parking lots, and commercial and residential buildings.

The project site can be divided into two groundwater recharge areas: (1) a lowland recharge area and (2) an upland recharge area. The upland recharge area is the primary source of groundwater for the proposed project; it is in this area that the Resort and Winery Wells are located. Both recharge areas are located in a major groundwater basin, as delineated in the *Sonoma County General Plan*, and described in the *Setting* above. Impacts to the upland recharge area would have local effects on the amount of recharge to the proposed water supply (Winery and Resort Wells) and any neighboring wells that draw water from the same hydrologic unit. Impacts to the lowland recharge area would not directly impact the proposed water supply, since this area is located downgradient of the wells; however regional impacts on groundwater storage could occur from the project as a whole.

The lowland groundwater recharge area has an area of roughly 46.5 acres. Based on existing rainfall and evapotranspiration data, approximately 34 percent of the mean annual rainfall (ten inches, or 0.83 acre-feet per acre) percolates and recharges the groundwater basin. Therefore, the 46.5-acre recharge area (pre-development) is estimated to contribute an average of 39.3 AF/year to groundwater replenishment. As proposed, the project would create approximately 3.7 acres of impervious surface in the lowland recharge area (for instance, buildings, roads, and parking areas), reducing the effective recharge area to 42.8 acres. This would reduce the net recharge volume in this portion of the site to 35.5 AF/year. This amounts to a decrease in groundwater recharge of approximately eight percent in the project site groundwater recharge area, but a negligible loss in recharge in the context of the regional groundwater basin. This would represent a small portion of the cumulative loss of recharge area to the regional groundwater basin.

The upland groundwater recharge area has an area of approximately 362 acres, as delineated in the RCS 2002 report and shown on Exhibit 5.5-1. The land within the watershed is primarily undeveloped woodland and grassland; therefore, little or no impervious areas currently exist within the recharge area boundaries, and the entire area is assumed to contribute to groundwater recharge. The existing average annual volume of precipitation that falls on the upland recharge area is estimated to be about 900 AF/year; this was estimated by multiplying the total existing recharge area (362 acres) by the average annual rainfall (29.9 inches/year). Approximately ten to 15 percent of the average annual rainfall is assumed to percolate and recharge into the local volcanic rock aquifer.²⁶ This gives an estimated existing average annual recharge volume of roughly 90 to 135 AF/year for the upland portions of the site. As proposed, the project will create approximately 11.6 acres of new impervious surface within the upland recharge area, thereby decreasing the effective recharge area to approximately 350 acres. This will reduce the amount of average annual recharge to approximately 87 to 130 AF/year, a three- to four-percent reduction as compared with the existing recharge volume.

The proposed wells would extract approximately 35 AF/year from the aquifer to meet average annual water demands. Based on the above, the total reduction in groundwater recharge as a result of the project is estimated to be as follows:

Lowlands recharge reduction	3.8 AF/year
Uplands recharge reduction	3 to 5 AF/year
<u>“Net” extraction</u>	<u>15 to 20 AF/year</u>
Total reduction	21.8 to 28.8 AF/year

²⁶ *Results and Analysis of 48-Hour Constant Rate Pumping Test –Resort Well at Graywood Ranch, op. cit.*

Compared to the estimated pre-development recharge volumes of 129.3 and 174.3 AF/year for the entire site, the project is estimated to result in an approximate 15 to 20 percent reduction in the net on-site recharge of the groundwater basin. Averaged over the approximate 180-acre project site, the net annual reduction in groundwater recharge would amount to about 0.12 to 0.16 acre-feet per acre, which equates to a water “depth” of about 1.5 to 2.0 inches. This impact would be less-than-significant.

Most of the water used for domestic purposes would be returned to the groundwater system via percolation from the on-site wastewater treatment disposal systems, such that the “net extraction” of groundwater for the project is likely to be no more than about half of the projected pumping volume, or roughly 15 to 20 AF/year. Additionally, groundwater recharge occurs when stormwater runoff from building, roof, driveway, and roadway areas is not conveyed off-site through stormwater collection and conveyance systems. Stormwater runoff from the developed areas at the project site would be conveyed to the natural drainage ways on-site. Since groundwater mining would not occur, the proposed project would not cause a drop in the aquifer level. This impact would be less-than-significant.

Mitigation Measure 5.5-3 No mitigation would be required.

Impact 5.5-4 Impacts to Neighboring Wells and Springs from Well Interference

Well interference effects on neighboring wells would not limit ability of the wells to provide water for existing domestic or irrigation uses. Based upon spring flow monitoring during the pumping test, water quality characteristics of the springs and well water, and the location of the springs upgradient of the wells, the neighboring springs would not be influenced by the proposed wells. Impacts to neighboring wells and springs from well interference would be less-than-significant.

Well interference refers to the groundwater drawdown on neighboring wells or springs from the pumping of a given well or group of wells. The extent of the effect, if any, depends upon a number of factors, including the distance between the wells, pumping rate, and the nature and the hydraulic properties of the aquifer. Factors affecting the actual pump yield may also include the depth of the constructed well and depth of the well seal, the depth of the screened intervals of the well, the depth or height of the pump inside the well, the size and the hydraulic capacity of the well. The best way to determine potential well interference effects is through the completion of a pumping test, such as that completed by RCS in November 2002.

Impacts to Neighboring Wells

A 48-hour pumping test²⁷ by RCS was performed on the Resort Well. Several nearby wells, including the Winery Well and two neighboring off-site wells (New Bargiacchi Well and Graywood Ranch Well) were monitored for water level decline during the pumping test. During the pumping tests, the water level increased in the Winery Well and the New Bargiacchi Well, and declined only slightly (0.32 feet below reference point [brp]) in the Graywood Ranch Well (see Exhibit 5.5-1). Water level decline in the pumping well (Resort Well) was 44.13 feet brp. Because pumping had to occur in the Graywood Ranch Well during the pumping test, it is likely that the decline in water level was the result of this, and not the pumping of the Resort Well.

²⁷ Continuous pumping of the well occurred for a total of 48 hours and 20 minutes (2,900 minutes).

The water level in the Resort Well was 154.52 feet brp before the pumping test, and was 198.65 feet brp prior to the end of the test (48 hours, 20 minutes of continuous pumping at 30 gpm). Following termination of the pumping period, the Resort Well showed positive recovery, with water levels recovering to 2.79 feet below the initial pre-test static water level after approximately five days. The total drawdown during the pumping portion of the test was 44.13 feet. The total saturated aquifer thickness (approximately 385 feet) is estimated as the well depth (540 feet) less the initial depth to water (approximately 155 feet). The available aquifer thickness (257 feet) is the amount of aquifer available for pumping and is estimated as roughly two-thirds of the total saturated aquifer thickness. Based upon the results of the pumping test, the specific capacity of the Resort Well is approximately 0.68 gpm/ft ddn.

In addition to monitoring the water level, RCS performed drawdown calculations for the nearby observation wells to predict the theoretical amount of water level drawdown that might occur in the monitored wells. The theoretical drawdown calculations were performed for periods of continuous pumping for 2,900 minutes (2 days), 30 days, 60 days, 90 days, and 180 days. The longer assumed periods of continuous pumping are used to estimate the amount of drawdown that could be expected during a dry period, when pumping occurs, and groundwater is not recharged by rainfall infiltration. Exhibit 5.5-5 summarizes the results of the monitored drawdown and theoretical drawdown values.

**EXHIBIT 5.5-5
 COMPARISON OF THEORETICAL AND ACTUAL DRAWDOWN VALUES**

Well Name	Distance to Pumping Well (ft)	Actually Monitored Water Level Decline after 2900 minutes (ft, brp)	Theoretical Water Level Drawdown, Showing Assumed Periods of Continuous Pumping (ft, brp)				
			After 2,900 minutes	After 30 days	After 60 days	After 90 days	After 180 days
Resort Well	--	44.13	Calibrated to actual value of 44.13	49.12	50.87	51.90	53.65
Winery Well	1,610	No water level decline (water level increased 2.95 ft)	3.33	9.75	11.49	12.51	14.26
New Bargiacchi Well	1,970	No water level decline (water level increased 3.67 ft)	2.51	8.75	10.48	11.50	13.24
Graywood Ranch Well	1,130	0.32	4.90	11.53	13.27	14.30	16.05

Source: RCS

The observed drawdown of the monitoring wells during the pumping test indicates that the Winery Well and the New Bargiacchi Well may not be influenced by the pumping of the Resort Well (water levels did not decline during the pumping test). However, it is also possible that the 48-hour pumping was not long enough for drawdown effects to appear in these wells. Water levels at the Graywood Ranch Well (the well nearest to the pumping well) declined by 0.32 feet during the pumping test. This may be attributed to the normal pumping of the Graywood Ranch Well (for existing uses) during the testing period. Although no water level decline was noted during the monitoring of the New

Bargiacchi Well, the wells penetrate the bedrock zone and draw water from a similar depth. Therefore, the conservative (safe) approach is to assume that long-term drawdown effects are possible at both the New Bargiacchi and Graywood Ranch Wells, as well as at the Old Bargiacchi Well and Flats Well. The drawdown calculations performed by RCS were completed in accordance with standard techniques for assessing water well hydraulics and appropriate aquifer assumptions derived from the pumping test.

Using the theoretical long-term drawdown effects estimated by RCS for neighboring wells the potential impacts on these wells were evaluated based on the existing uses and characteristics of each of the wells. The results of this evaluation are displayed in Exhibit 5.5-6. Shown for each of the four nearest wells are the known (or estimated) well yield, depth and static groundwater levels from which the total saturated thickness is calculated (or estimated) in line 4. The “available drawdown” in line 5 is calculated to be the effective aquifer thickness that can be effectively used by the well. Line 6 indicates the estimated drawdown effect at each well over an extended period (180 days), as calculated by RCS. The percentage reduction in the available drawdown (or aquifer thickness) is shown in line 7. This is roughly equivalent to the expected reduction in well yield that may be experienced at each of these wells due to the groundwater pumping for the project.

**EXHIBIT 5.5-6
 COMPARISON OF THEORETICAL DRAWDOWN AND AVAILABLE DRAWDOWN FOR
 NEIGHBORING WELLS**

<i>Line</i>	<i>Parameter</i>	<i>Well</i>			
		<i>Graywood Ranch</i>	<i>New Bargiacchi</i>	<i>Old Bargiacchi</i>	<i>Flats</i>
1	Well Yield (gpm)	50 ^a	30-100 gpm ^b	30	100
2	Well Depth (feet)	525 ^a	500 ^c	200 ^a	300 ^a
3	Static Level (feet brp)	76.23	91.6	91.6 ^d	50 ^a
4	Total Available Drawdown (feet)	448.77	408.4	108.4	250
5	Available Drawdown (feet) (2/3 of Total)	300	272	72	167
6	180-day Theoretical Drawdown (feet)	16.05	13.24	13.24 ^d	13.24 ^d
7	180-day Drawdown/Available Drawdown (%)	5.4%	4.9%	18%	7.9%
8	Water Use	Domestic	Domestic	Domestic	Irrigation

^a Boudreau, 2002

^b Well yield at the New Bargiacchi Well is not available; its yield is likely within the range of nearby wells.

^c Actual depth not available; assumed depth based upon depth Resort Well and Graywood Ranch Well

^d Actual data not available; assumed data based upon nearby New Bargiacchi Well

Source: Questa Engineering

For the worst-case analysis (180-day dry period), the projected drawdown at the neighboring wells ranged from 13.24 (New Bargiacchi Well) to 16.05 feet (Graywood Ranch Well), which amounts to about five percent of the available drawdown (roughly 300 feet). Given the existing yield of the Graywood Ranch Well (50 gpm), a five percent reduction of the available drawdown would not limit the well's ability to supply water for existing domestic use.²⁸ The yield of the New Bargiacchi Well is not known, however a drawdown of less than five percent of the available aquifer thickness is not likely to impact the well's ability to supply water for existing domestic use, given that wells in the area are producing between 30 and 100 gpm. The Old Bargiacchi Well, which is shallower (approximately 200 feet), and, therefore, has less available drawdown (approximately 72 feet), could experience an 18

²⁸ Less than six gpm would be necessary to meet the existing domestic water use, given the six residential units on the property (four primary units, and one or two secondary units). Approximately one gpm per residence is a conservative estimate.

percent reduction in the available drawdown. Although this is a higher reduction than that experienced by the other neighboring wells, it would still be able to supply adequate water for domestic uses, given its existing yield of 30 gpm. During a 180-day drought, the yield would be reduced to about 25 gpm,²⁹ which would be more than enough to provide water for domestic use.

The Flats Well is the only nearby well known to be used for vineyard irrigation. It is 2,600 feet from the Resort Well and has an estimated available drawdown of approximately 167 feet. Although no theoretical drawdown calculations were performed for this well by RCS, it is reasonable to use the calculated drawdown (13.24 feet) from the nearby New Bargiacchi well which is 1,970 feet from the Resort Well. As indicated in Exhibit 5.5-6, this amounts to an approximate eight percent theoretical reduction in the available aquifer thickness at this well, at the end of a 180-day dry period. Based upon aerial photographs of the project vicinity, the Flats Well may be used to irrigate as much as 35 acres of vineyard. During the peak season (July and part of August), it is estimated that up to 2,000 gallons per acre per day of water may be required for a high density vineyard. Therefore, based upon a 35-acre irrigated area, the vineyard could require as much as 70,000 gallons per day, which equates to a continuous pumping rate of about 50 gpm of water. The Flats Well is reported to have a yield of approximately 100 gpm,³⁰ therefore, roughly half of the yield may be needed to irrigate the vineyards. Therefore, a drawdown impact of eight percent on the total available drawdown would not limit the ability of the well to supply sufficient water for the existing irrigation demands.

None of the neighboring wells would experience well interference effects that would limit their ability to supply enough water for existing uses. Therefore, impacts from well interference would be less-than-significant.

Impacts to Neighboring Springs

Well interference with neighboring springs was identified as a concern by owners of the nearby springs. The neighboring springs are located upgradient of the wells and, likely, draw water from a different source than the Resort and Winery Wells (given the difference in water quality characteristics and location).

Spring flow measurements were monitored by Adobe Associates before and during the pumping test to investigate any well interference effects that pumping of the Resort and Winery Wells may have. The results of the monitoring were analyzed and discussed by RCS. Graywood Ranch Spring, Harper Spring, and Foster Spring were monitored 14 days before the start of the pumping test to obtain background flow data for the springs. The pre-pumping test flow data show natural fluctuations in the flowrates over time, likely due to changes in the weather. The monitoring data during the pumping test did not appear to affect the normal cycling of the spring flow. Given the upgradient location of the springs (relative to the wells) and the likelihood that the springs draw from a different water source based on water quality, the results of the spring monitoring were not unexpected. Impacts to neighboring springs from well interference would be less-than-significant.

Mitigation Measure 5.5-4 No mitigation would be required.

²⁹ $(1-0.18) \times 30$ gpm

³⁰ *Geology & Ground Water Potential of the Auberge Resorts Property, Kenwood, California, op. cit.*

Impact 5.5-5 Cumulative Water Supply Impacts.

Nearly all of the cumulative projects, or portions thereof, are located in the groundwater recharge area and major groundwater basin (Class I groundwater area) that underlies the flatter topography of the valley. The cumulative loss of recharge area would decrease the amount of water recharging to this water source; however, the overall effect would be small. The pumping tests and analysis of drawdown effects for the Sonoma Country Inn water supply wells indicate that the impact to nearby wells would be less-than-significant. Any interference effects on wells (existing or new) located at greater distances from the project wells would be negligible because of the exponential decline in impact with distance. Groundwater recharge and well interference effects from the proposed project would be less than cumulatively considerable and therefore a less-than-significant impact.

The cumulative development assumptions prepared for this EIR includes 12 projects that are approved, under review, under construction, or are reasonably expected to be built in the vicinity of the project site.³¹ Nearly all of these projects (11), or portions thereof, are located in the groundwater recharge area and major groundwater basin (Class I groundwater area) that underlies the flatter topography of the valley.³² Class I groundwater areas have a known plentiful supply of groundwater, and, therefore, do not require a verified water supply for new development.

Eleven of the projects, including the *Sonoma Country Inn*, would increase the transient and/or permanent population within the recharge area (for instance, public tours, wine tasting and special events, or residential use), and six of the projects call for increases in winery production capacity. The development of undeveloped lands, and the increased population and winery production would result in loss of infiltrative area (for groundwater recharge) and additional groundwater use in the vicinity.

Cumulative Effects on Groundwater Recharge

Five of the projects would involve new construction or remodeling in the groundwater recharge area, thereby increasing the amount of impervious surface in this area. The loss of infiltrative area would decrease the amount of available area for groundwater recharge. Many residents rely upon groundwater from wells and springs as their primary drinking water source. The cumulative loss of recharge area in combination with the extraction and use of groundwater for project needs would contribute to a small decline in the groundwater levels in the basin. However, analysis of the proposed project and groundwater conditions of the area indicate that the project site presently contributes approximately 130 to 175 AF/year of recharge to the groundwater basin, and that the development of the proposed project should decrease this by about 20 to 30 AF/year, a reduction of roughly 15 to 20 percent.³³ The project site would continue to serve as a substantial contributor to the groundwater resources of the area, regardless of other existing and potential future development projects in the area. Therefore, it is concluded that the project impacts on groundwater recharge would be less than cumulatively considerable and therefore a less-than-significant impact.

³¹ See *Section 3.3 Cumulative Development Assumptions* for further discussion of the cumulative projects.

³² *Sonoma County General Plan*, Figures RC-2e and RC-2i

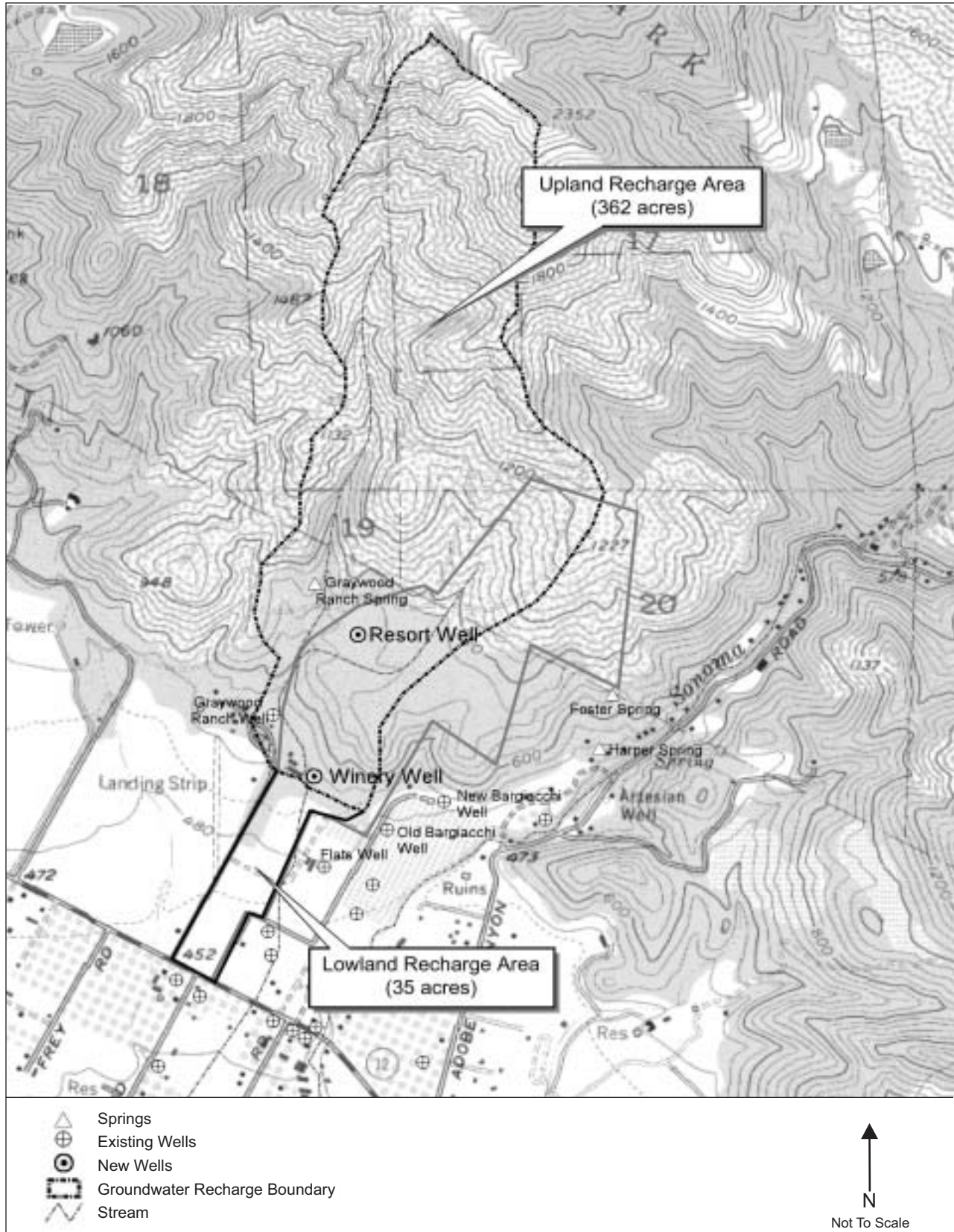
³³ The total reduction of groundwater recharge (approximately 20 to 30 acre-feet per year) includes reductions from the loss of infiltrative area (7 to 9 acre-feet per year) and the “net” extraction of groundwater for water use (15 to 20 acre-feet per year). The “net” extraction of groundwater is the amount of water pumped from the wells (35 acre-feet per year) less the amount of water is recharged from on-site wastewater disposal fields (15 to 20 acre-feet per year) (see Impact 5.5-3).

Cumulative Well Interference

Cumulative groundwater interference impacts could occur in the area as more wells are constructed or well production is increased; the same land area would be used for more wells and/or increased well production. Most of the proposed projects are scattered throughout the impact area (not clustered together), and would likely not interfere with one another, though each could individually impact other nearby neighboring wells. Although drawdown effects are additive, the amount of well interference decreases exponentially with distance from the pumping well. Therefore, the greatest impacts occur between wells that are situated close to one another and within each other's zone of influence. The pumping tests and analysis of drawdown effects for the *Sonoma Country Inn* water supply wells indicate that the impact to nearby wells would be less-than-significant (see Impact 5.5-4). Therefore, any interference effects on wells (existing or new) located at greater distances from the project wells would be negligible because of the exponential decline in impact with distance. On this basis it is concluded that the well interference effects from the proposed project would be less than considerable. With respect to the nearest existing well at the Graywood Ranch, there is the potential for greater effects in the future if the use of the well for this neighboring property is expanded. The proposed Graywood Ranch Subdivision would permit three additional residential units to be constructed on newly proposed vacant parcels, bringing the total number of residential units on the property to seven. The reported yield of the Graywood Ranch Well is 50 gpm. Since each residential unit would require pumping of approximately one gpm (seven gpm total), the Graywood Ranch Subdivision would still have sufficient capacity to obtain water, even during an extended 180-day dry period when pumping at the *Sonoma Country Inn* could possibly decrease the Graywood Ranch Well's yield by about five percent (two to three gpm) as a result of drawdown effects. Therefore, cumulative well interference effects would be less-than-significant.

Mitigation Measure 5.5-5 No mitigation would be required.

**EXHIBIT 5.5-1
LOCATION OF SPRINGS, EXISTING WELLS, AND NEW WELLS**



Source: Questa Engineering Corp.

5.6 BIOLOGICAL RESOURCES

Biological Resources - The Setting

INTRODUCTION

This section assesses the impacts of the proposed project on the biological and wetland resources of the *Sonoma Country Inn* project site. These on-site resources were determined through a review of available information, including detailed studies conducted for the applicant, and field reconnaissance surveys by Environmental Collaborative (the EIR biologist). The field reconnaissance surveys were conducted on April 11 and July 17, 2002, and served to verify the vegetation and wildlife resources on the site, mapping of sensitive resources, and the adequacy of the detailed studies conducted for the applicant. The detailed studies include:

- x A preliminary wetland delineation prepared in 2000 by Wetland Research Associates ¹ (WRA) and a second preliminary delineation prepared by Jane Valerius (Valerius) in 2002. ²
- x Mapping and descriptions of the vegetation communities on the site prepared by Valerius in 2002. ³
- x Surveys for special-status plants by WRA in 2000 ⁴ and 2001. ⁵
- x A habitat assessment for special-status amphibians and raptor nesting surveys by Ibis Environmental Services (IES) in 2002, ⁶ and an arboricultural evaluation with preliminary recommendations prepared in 2000 ⁷ and revised tree estimates made in 2002 ⁸ by MacNair & Associates (MA).

¹ *Delineation of Potential Jurisdictional Wetlands Under Section 404 of the Clean Water Act, Graywood Ranch Project Site*, Wetlands Research Associates, prepared for Auberge Resorts, November 2000.

² *Delineation of Potential U.S. Army Corps of Engineers Jurisdictional Areas*, Sonoma Country Inn, Kenwood, Sonoma County, Jane Valerius, letter to Ms. Jane Hicks, Chief, North Section, Regulatory Branch, May 30, 2002.

³ *Final Report Vegetation Community Map and Descriptions, Sonoma Country Inn*, Jane Valerius, prepared for Auberge Resorts, May 29, 2002.

⁴ *Gairdner's Yampah (Perideridia gairdneri ssp. gairdneri) Survey on a portion of Graywood Ranch*, Wetlands Research Associates, prepared for Common Ground Land Planning Services, November 2000.

⁵ *Special Status Plant Surveys of Graywood Ranch*, Wetlands Research Associates, prepared for Graywood Ranch L.P., May, June, and August 2001.

⁶ *Sonoma Country Inn Project*, Ibis Environmental Services, letter report to Mr. Ed Nagel, Auberge Resorts, June 14, 2002.

VEGETATION AND WILDLIFE

Vegetation on the site is composed of a mosaic of grassland, woodland, forest, chaparral, and riparian cover. According to mapping by Valerius (see Exhibit 5.6-1), these consist of: Chaparral; Mixed Evergreen/Hardwood Zone; Mixed Evergreen with Blue Oak and California Fescue; Mixed Hardwood Zone or Mixed Oak Series; Valley Oak Savanna; Annual Grassland; Wet Meadow/Potential Seasonal Wetland; Drainage with Riparian Zone; and Drainage - No Riparian. These vegetation types are based on previous reports by WRA and MA, descriptions contained in *A Manual of California Vegetation*,⁹ and field interpretation made by Valerius. Successional changes in vegetative cover due to fire suppression and other factors make it difficult to define the limits of distinct natural communities according to the classification system used in *A Manual of California Vegetation* and the *List of California Terrestrial Natural Communities* prepared by the California Department of Fish and Game (CDFG).¹⁰

The mosaic of natural community types, presence of surface water, few impediments to wildlife movement, and the extent of surrounding undeveloped land contributes to relatively high wildlife habitat values on the site. The continuing spread of forest, woodland, and chaparral cover appears to be replacing much of the open grassland through the mid-elevations of the site, limiting the important ecotone between cover types that would otherwise be available. Many species of wildlife use resources available at the interface between natural communities, foraging in the open grasslands and using the shrub and tree cover for protection and nesting and denning. Existing vineyard and rural residential development borders the lower elevations of the site and State Route 12 creates a barrier to wildlife movement southward across the valley floor. A description of each of the natural community types and the wildlife typically associated with them is provided below.

Non-Native Grassland

Grasslands occupy an estimated 19.3 acres of the site, and are dominated by non-native annuals such as bromes (*Bromus* spp.), annual ryegrass (*Lolium multiflorum*), hedgehog dogtail (*Cynosurus echinatus*), wild oats (*Avena* spp.), filaree (*Erodium* spp.), bur clover (*Medicago polymorpha*), and yellow star-thistle (*Centaurea solstitialis*). Historic grazing has replaced many of the native grasses and herbaceous plants, but a number of natives remain, including: purple needlegrass (*Nassella pulchra*), California fescue (*Festuca californica*), blue dicks (*Dichelostemma capitatum* ssp. *capitatum*), California poppy (*Eschscholzia californica*), and lupines (*Lupinus* spp.). Because of the predominance of non-native plant species and the fact that native grasses generally comprise less than ten percent of the total cover, the non-native grasslands on the site are not considered to be a sensitive natural community as defined by the California Natural Diversity Data Base (CNDDDB) of the CDFG. This includes a small area along the southeast side of Graywood Creek that was identified as a "Native Grassland Preserve" in the proposed Development Plan (see Exhibit 3.0-7). Only a few clumps of native purple needlegrass actually occur in

⁷ *Sonoma Country Inn (Graywood Ranch) - Arboricultural Evaluation Preliminary Recommendations*, MacNair & Associates, letter to Mr. Michael Morrison, Common Ground, December 13, 2000.

⁸ *Sonoma Country Inn (Graywood Ranch) - Tree Count Estimates*, MacNair & Associates, letter to Mr. Michael Morrison, Common Ground, June 19, 2002.

⁹ *A Manual of California Vegetation*, Sawyer, J.O. and T. Keeler-Wolf, California Native Plant Society, 1995.

¹⁰ List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database, California Department of Fish and Game, February 2002.

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this location, which is bordered by woodland along Graywood Creek on one side and an actively maintained vineyard on the adjacent property to the southeast.

During the reconnaissance in April 2002, a small area in the grasslands immediately east of the northeastern stand of Valley Oak was observed by the EIR biologist to support a wetland indicator species, common meadowfoam (*Limnanthes douglassii*). This area was subsequently investigated by Valerius given the presence of this obligate wetland species. Valerius determined that the area did not qualify as a seasonal wetland due to an absence of soils indicators and dominance by non-wetland vegetation, and the location is mapped as non-native grassland.

Grasslands provide habitat for numerous wildlife species, some of which are completely dependent on the grasslands and others which utilize the grasslands for foraging and the surrounding woodland, forest and chaparral for protective cover and breeding. Species associated with the grasslands include: California vole, Botta pocket gopher, western rattlesnake, gopher snake, western fence lizard, and northern alligator lizard. Grassland vegetation provides food, nesting material, and nesting substrate for numerous species of birds, including: mourning dove, American goldfinch, western meadowlark, and several species of sparrows and other passerine birds. The small mammals, birds, and reptiles serve as prey for several larger predatory mammals and raptors, such as grey fox, coyote, bobcat, red-tailed hawk, red-shouldered hawk, American kestrel, and great-horned owl.

Mixed Evergreen/Mixed Oak Series

The mixed evergreen forest and oak woodlands occupy an estimated 105.4 acres across the mid-elevations of the site. The cover of woodland and forest intergrades with chaparral and grassland, and is dominated by Douglas fir (*Pseudotsuga menziesii*), coast live oak (*Quercus agrifolia*), blue oak (*Q. douglasii*), black oak (*Q. kelloggii*), white oak (*Q. garryana*), California bay (*Umbellularia californica*), and madrone (*Arbutus menziesii*). Common understory species include: poison oak (*Toxicodendron diversilobum*), coffeeberry (*Rhamnus californica*), manzanita (*Arctostaphylos* spp.), and toyon (*Heteromeles arbutifolia*). French broom (*Genista monspessulana*), a highly invasive weedy species, is spreading through the understory and fringe of the forest and woodland, primarily on the lower and mid-elevations of the site. Much of the understory vegetation in the vicinity of proposed structures was removed in 2001 and 2002 to reduce the fire hazard and improve accessibility across the site.

Mapping by Valerius distinguished areas in the forest and woodland dominated by an association of blue oak and California fescue. This area is part of the larger Mixed Evergreen/Hardwood Zone, but was mapped separately because these two species dominate around the more open areas on the plateau portion of the site. While the mature trees provide important habitat and the CDFG is concerned with their protection, the forest and woodland cover in the mid-elevations of the site are not characteristic of plant associations recognized as sensitive natural communities.

The arboricultural evaluation by MA provided an estimate of the total number of trees on the site, assessed the general health and condition of the predominant tree species, determined whether evidence of the pathogen-insect complex Sudden Oak Death (SOD) is present, made recommendations for management of SOD and other potential pest or disease problems, and provided an outline of proposed vegetation management. The vegetation management issues addressed in the report by MA include: SOD, fire hazard management, noxious weed control, tree protection procedures and mitigation, and erosion control. The condition of trees in the forest and woodland varied, although MA noted indications of significant fire damage in most zones. The tree estimates were revised based on subsequent tree counts made by MA in 2002 on proposed residential lots 6, 7, and 11. A revised tree density estimate of approximately 100 trees per acre was made for the Mixed Evergreen/Hardwood Zone which encompasses most of the forested and wooded portions of the site.

The woodland and forest provide important cover for wildlife, and the vertical distribution of canopy and understory vegetation provides for a greater diversity of wildlife than often found in the adjacent grasslands. Wildlife commonly associated with woodland and forest habitat includes: dusky-footed woodrat, deer mouse, western flycatcher, chestnut-backed chickadee, plain titmouse, Hutton vireo, Wilson warbler, orange-crowned kinglet, rufous-sided towhee, bushtit, ringneck snake, California newt, and California slender salamander. Dead limbs and cavities in older trees are often used for nesting or denning. The abundant seed crops (produced by oak, bay, fir, madrone, manzanita, poison oak, and toyon) are an important food source for black-tailed deer, western grey squirrel, band-tailed pigeon, scrub and Steller jays, woodpeckers, and other species of wildlife. No active raptor nests were observed in the woodland and forest cover during surveys conducted by IES.

Valley Oak Savanna

Valley oak (*Quercus lobata*) occurs as two distinct stands over about 2.5 acres on the valley floor of the site, although additional scattered valley oak occur in the lower elevations of the Mixed Oak Series and the Riparian Zone. Tree density in the savanna is low and consists of widely spaced trees with an understory of non-native grassland. Little regeneration of valley oak was observed by the EIR biologist. The mapped stands of valley oak on the site are considered a sensitive natural community by the CDFG and CDFG staff has expressed concern regarding preservation and regeneration of this tree species on the site.¹¹ The protection of valley oak is also of concern to Sonoma County, as reflected in several *Sonoma County General Plan* policies, establishment of the Valley Oak Habitat (VOH) combining zoning district and adoption of County Ordinance No. 4991 regarding protection and enhancement of valley oaks and valley oak woodlands within the VOH district.

The stands of valley oak on the site provide important perching and resting sites for numerous bird species and this deciduous species contributes to the diversity of habitat along the riparian zone. Acorns produced in the fall are an important food source for woodpeckers, jays, and mammals. No nests were observed in the tree stands on the site.

Chaparral

Chaparral occurs on the upper elevations of the site at the base of Hood Mountain occupying an estimated 57.0 acres of the site. The slopes are typically south-facing, with shallow soils and signs of erosion along the existing fire trails. Shrub species dominate this natural community, which integrates with the adjacent forest and supports smaller trees due to the exposed conditions. Characteristic species include: chamise (*Adenostoma fasciculatum*), ceanothus (*Ceanothus* spp.), manzanita, yerba santa (*Eriodicyton californicum*), poison oak, pickeringia (*Pikeringia montana*), and sticky monkeyflower (*Mimulus auranticus*). One special-status shrub species, Sonoma ceanothus (*Ceanothus sonomensis*), occurs within this natural community type. Fire plays an important role in the health of this natural community, serving to periodically remove senescent vegetation, opening the canopy, and stimulating generation of fire-dependent annuals and regeneration of shrubs. Although the presence of Sonoma ceanothus in the chaparral contributes to the importance of this vegetation type, it is not recognized as a sensitive natural community by the CDFG.

¹¹ *Sonoma Country Inn Vegetation and Wildlife Issues*, Robert Floerke, California Department of Fish and Game, letter to Ms. Denise Peter, County of Sonoma, January 31, 2002.

The chaparral provides habitat to a number of dependent species, including mammals, birds, and reptiles. These include: scrub jay, California quail, California thrasher, wrenit, brush rabbit, western fence lizard, western skink, and western rattlesnake.

Riparian Zone

Riparian Woodland occurs along the main channel of Graywood Creek, forming a relatively narrow band of trees and shrubs across the valley floor, and intergrading with the surrounding forest in the mid-elevations on the site. Tree and shrub species include those characteristic of the forest and woodland, but include more mesic species such as California buckeye (*Aesculus californica*), Pacific big leaf maple (*Acer macrophyllum*), Oregon ash (*Fraxinus latifolia*), arroyo willow (*Salix lasiolepis*), blackberry (*Rubus* spp.), and blue elderberry (*Sambucus mexicana*). Vegetation along the upper segment of Graywood Creek is generally indistinguishable from the surrounding forest and woodland cover. Several tributaries form a network of ephemeral drainages in the mid to upper elevations of the site, but these are generally devoid of wetland or riparian vegetation. Although the riparian woodland on the site does not fit the descriptions of sensitive natural communities, it should be considered a sensitive resource because of its importance to wildlife and the presence of valley and black oaks which are plant associations of particular concern to the CDFG.

The Graywood Creek corridor provides important habitat for wildlife and a source of seasonal surface water. The lower segment of the creek tends to dry out in early spring, precluding use by fish and many amphibians. Surface water remains for a longer period in the freshwater seep complex at the northwest end of the plateau which drains into the main channel and along the upper segments of the creek where a few small pools remain into the early summer. The dense vegetation along the lower segment of the creek provides protective cover to wildlife in the grasslands, and the network of drainages most likely serve as movement corridors for some species of wildlife.

Wet Meadow/Potential Seasonal Wetland

The two areas identified as Wet Meadow in Exhibit 5.6-1 support a unique seasonal wetland habitat at the northwestern end of the plateau, with runoff then continuing downslope into ephemeral drainages and entering the main channel of Graywood Creek. Characteristic species in the Wet Meadow habitat include: California oatgrass (*Danthonia californica*), pennyroyal (*Mentha pulegium*), and rush (*Juncus* sp.). The southern wet meadow area supports a population of the special-status plant species, narrow-anthered California brodiaea (*Brodiaea californica* var. *leptandra*). Together, these two potential seasonal wetland areas occupy an estimated 0.41 acres of the site. Although they do not fit the descriptions of sensitive natural communities used by the CDFG, the wet meadows should be considered a sensitive resource because they are potential jurisdictional wetlands, the presence of the special-status narrow-anthered California brodiaea, and the unique habitat they provide on the site. These features contribute to the complexity of the grasslands on the plateau, as well as the surrounding woodland and forest, and provide an important source of surface water for aquatic and terrestrial species during the winter and spring.

Wetlands and Watercourses

Wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions. Technical standards have been developed as a method of defining wetlands through consideration of three criteria: hydrology, soils, and vegetation.

The U.S. Army Corps of Engineers (Corps), CDFG, and Regional Water Quality Control Board (RWQCB) have jurisdiction over modifications to stream channels, river banks, lakes, and other wetland features. Jurisdiction of the Corps is established through the provisions of Section 404 of the Clean Water Act, which prohibits the discharge of dredged or fill material into “waters” of the United States without a permit, including certain wetlands and unvegetated “other waters of the U.S.” Jurisdictional authority of the CDFG is established under Sections 1603 of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is “unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake” without notifying the Department, incorporating necessary mitigation, and obtaining a Streambed Alteration agreement. The Wetlands Resources Policy of the CDFG states that the Fish and Game Commission will “strongly discourage development in or conversion of wetlands... unless, at a minimum, project mitigation assures there will be no net loss of either wetland habitat values or acreage.” Jurisdictional authority of the RWQCB, established pursuant to Section 401 of the Clean Water Act, typically requires a water quality certification when an individual or nationwide permit is issued by the Corps. The RWQCB also has jurisdiction over “waters of the State” under the Porter-Cologne Water Quality Control Act.

The extent of potential jurisdictional wetlands and unvegetated other waters were delineated by the applicant’s wetland consultants, first by WRA and then by Valerius. The preliminary delineation by WRA was conducted in the late summer of 2000 when it would have been difficult to distinguish any seasonal wetlands, including the wet meadow areas at the north end of the plateau. The report by WRA inaccurately concluded that no wetlands occur on the site, and that potential jurisdictional waters are limited to drainages. The subsequent preliminary delineation by Valerius determined that the wet meadows (shown in Exhibit 5.6-1) are potentially jurisdictional seasonal wetlands, occupying an estimated 0.41 acres of the site. An additional 0.63 acres of waters of the U.S. occur along the drainages, consisting of the main channel of Graywood Creek and three tributary ephemeral drainages that extend through proposed residential lots 5, 6, and 7. Two other isolated drainages were mapped by Valerius on the winery parcel (Parcel A), near residential lot 5, and near residential lot 8, but these were not identified as jurisdictional waters because they either no longer function hydrologically or were of man-made origin. Potential wetlands and unvegetated other waters mapped by Valerius are shown in Exhibit 5.6-2. A field verification was completed with representatives of the Corps in October 2002 and minor adjustments were made to the original delineation by Valerius and are included in Exhibit 5.6-2.

EXHIBIT 5.6-2

Special-Status Plant and Animal Species

Special-status species¹² are plants and animals that are legally protected under the state and/or Federal Endangered Species Acts¹³ or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, breeding locations, communal roosts, and other essential habitat. Species with legal protection under the Endangered Species Acts often represent major constraints to development; particularly when they are wide ranging or highly sensitive to habitat disturbance and where proposed development would result in a “take”¹⁴ of these species.

As discussed previously, detailed surveys have been performed to determine whether special-status species occur on site. These have included:

- x Surveys for special-status plants conducted through the flowering period of species suspected to occur on the site;
- x Nesting surveys for raptors; and
- x A habitat suitability analysis for two amphibian species of concern.

Generally, the surveys conducted to date appear to provide an accurate assessment of the potential for occurrence of special-status species on site. No additional surveys for special-status species appear necessary based on the peer review conducted by the EIR biologist, with the exception of pre-construction

¹² Special-status species include:

- y Designated (rare, threatened, or endangered) and candidate species for listing by the CDFG.
- y Designated (threatened or endangered) and candidate species for listing by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS).
- y And species considered to be rare or endangered under the conditions of Section 15380 of the California Environmental Quality Act (CEQA) Guidelines, such as those identified on lists 1A, 1B, and 2 in the California native Plant Society’s Inventory of Rare and Endangered Plants of California.

¹³ The Federal Endangered Species Act (FESA) of 1973 declares that all Federal departments and agencies shall utilize their authority to conserve endangered and threatened plant and animal taxa. The California Endangered Species Act (CESA) of 1984 parallels the policies of FESA and pertains to native California species.

¹⁴ “Take” as defined by the FESA means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect” a threatened or endangered species. “Harm” is further defined by the USFWS to include the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modification or degradation. The CDFG also considers the loss of listed species habitat as “take,” although this policy lacks statutory authority and case law support under the CESA.

Two sections of FESA contain provisions which allow or permit “incidental take.” Section 10(a) provides a method by which a state or private action which may result in “take” may be permitted. The applicant must provide the USFWS or NMFS with an acceptable conservation plan and USFWS must publish notification for a permit in the Federal Register. Section 7 pertains to a Federal agency which proposes to conduct an action which may result in “take,” requiring consultation with USFWS or NMFS and possible issuance of a jeopardy decision. Under the CESA, “take” can be permitted under Section 2081 of the Fish and Game Code. The applicant typically must enter into a habitat management agreement with the CDFG, which defines the permitted activities and provides adequate mitigation.

nesting surveys recommended as mitigation. The following discussion provides a summary of the conclusions regarding occurrence of special-status plant and animal species on the site.

Special-Status Plant Species

Detailed surveys were conducted by WRA to determine presence or absence of special-status plant species on the site. The surveys focused on 12 plant species recorded from the vicinity by the California Natural Diversity Data Base (CNDDDB) and an additional 17 species recommend by the Milo Baker chapter ¹⁵ of the California Native Plant Society (CNPS). Surveys were conducted on April 11, June 1, and July 10, 2001 according to CDFG guidelines ¹⁶ and extended through the flowering period of the species of concern. An earlier survey was conducted by WRA on October 11, 2000 focusing on the potential for occurrence of a single special-status plant species, Gairdner's Yampah (*Perideridia gairdneri* ssp. *gairdneri*).

Two special-status plant species were found on the site in the surveys by WRA: narrow-anthered California brodiaea and Sonoma ceanothus. Information regarding these two species is summarized below. No other special-status plant species have been reported from or are believed to occur on the site.

Narrow-anthered California Brodiaea This subspecies of California brodiaea is a perennial herb in the Liliaceae family that occurs in broad-leafed upland forest, chaparral, and lower montane coniferous forest in Lake, Napa and Sonoma counties. It is included on List 1B (plants considered rare, threatened, or endangered in California and elsewhere) of the CNPS *Inventory of Rare and Endangered Plants of California*. ¹⁷ Several hundred individuals were observed by WRA in 2001 in the southern wet meadow and along the rocky ephemeral drainage that flows into the area. Most of these individuals were located in the immediate vicinity of the wet meadow area, with an estimated 30 more scattered along the ephemeral drainage. The habitat consists of open grassland and seasonal wetland, with rocky substrate and manzanita shrubs. Invasive yellow-star thistle is abundant throughout this portion of the grassland and wet meadow. Evidence of past and on-going disturbance was observed by the EIR biologist in the vicinity of the population, including worn dirt roads, newer tire tracks through grassland cover, piles of chipped slash, stacked cut logs, and debris from installation of a new well. The proposed Development Plan (see Exhibit 3.0-7) shows the proposed location of the Brodiaea Preserve, which encompasses most but not all of the individuals in the population on the site.

Sonoma Ceanothus This species of ceanothus is a relatively short plant, generally under three feet in height that occurs on sandy and volcanic substrate in chaparral, and is known from approximately ten occurrences including Graywood Ranch. It is also maintained on List 1B of the CNPS *Inventory* and is a Federal Species of Concern. Approximately 5,000 to 10,000 individuals were observed by WRA in the chaparral cover on the site, and the distribution of this population was mapped by WRA using GPS, shown in the proposed Development Plan as the Sonoma Ceanothus Preserve (see Exhibit 3.0-7). In April 2001, one shrub was observed by WRA at approximately 800 feet in elevation on the plateau upgradient from

¹⁵ Letter to Denise Peter, County of Sonoma from Debbie Eakins and Eric Fristch, California Native Plant Society, Milo Baker Chapter, March 27, 2001.

¹⁶ *Guidelines for Assessing the Effects of Proposed Developments on Rare, Threatened and Endangered Plants and Plant Communities*, California Department of Fish and Game, May 1984, Revised August 15, 1997.

¹⁷ *Inventory of Rare and Endangered Plants of California*, California Native Plant Society, 6th Edition, 2001.

the southern wet meadow area. However, this individual was apparently removed during brush clearing operations in late spring of 2001.

Special-Status Animal Species

Based on occurrence records of the CNDDDB, several special-status animal species are known or suspected to occur in the Sonoma Valley vicinity. These include: California red-legged frog (*Rana aurora draytonii*), foothill yellow-legged frog (*Rana boylei*), California freshwater shrimp (*Syncaris pacifica*), northern spotted owl (*Strix occidentalis caurina*), and several other species of raptors. Of these, suitable habitat for the federally and State-listed endangered California freshwater shrimp is absent from the site due to the seasonal nature of Graywood Creek and tributary drainages. Similarly, essential habitat for fish species such as the federally-threatened steelhead (*Oncorhynchus mykiss*), is absent from the site.¹⁸ A discussion of the status, preferred habitat, and conclusion regarding possible occurrence on the site for the other species is presented below. Information is also presented regarding the possible occurrence of California tiger salamander (*Ambystoma californiense*) on the site. With the exception of possible occasional use by foraging raptors and other birds considered by the CDFG to be California Special Concern (CSC) species, no special-status animal species are believed to occur on the site and no raptor nests were encountered during surveys conducted by IES.

California red-legged frog This subspecies is listed by the USFWS as threatened and is recognized as a CSC species by the CDFG. The listed range in Sonoma County includes the Sonoma Creek, Petaluma River, and Walker Creek watersheds. It inhabits ponds, marshes, and streams that typically support riparian vegetation, but can also be found near seeps and in ephemeral streams with pools. The assessment by IES concluded that suitable breeding habitat was absent from the site and the distance from known breeding habitat precluded use of the site by this subspecies.

Foothill yellow-legged frog This species is designated a CSC species by the CDFG and is a Federal Species of Concern. It is an aquatic amphibian found in stream habitats throughout northwestern California, the northern and central Coast Ranges, and the Sierra Nevada foothills. Foothill yellow-legged frogs inhabit shaded, shallow perennial and intermittent streams with rocky substrate that is at least cobble-sized. Suitable habitat for this species is absent from the site due to the seasonal nature of Graywood Creek and the tributary drainages, which do not hold water long enough to allow for successful breeding and metamorphosis of young. The assessment by IES also concluded that suitable breeding habitat was absent from the site for this species.

California tiger salamander The Sonoma County population of California tiger salamander is listed as endangered by the USFWS. California tiger salamander is recognized as a Protected Species and a CSC species by the CDFG. It occurs in grassland and savanna habitat, breeding in vernal pools and swales, seasonal drainages, and man-made ponds, and spending most of the year in subterranean refugia such as rodent burrows, cracks, and under rocks and logs. Most of the occurrences of this subspecies in Sonoma County are from the complex of vernal pools and drainages of the Santa Rosa Plain along the Laguna de Santa Rosa watershed, generally between Sebastopol, Santa Rosa, and Cotati. No occurrences of this subspecies have been reported from the north Sonoma Valley, and suitable vernal pool habitat or seasonal ponds are absent from the site and surrounding properties. Although IES did not address California tiger salamander as part of their habitat suitability analysis in spring of 2002, a subsequent review by IES concluded that occurrence of this subspecies on the site and vicinity is unlikely due to the absence of suitable habitat.

¹⁸ Bill Cox, California Department of Fish and Game, email to Merrill Van Fleet (applicant's consultant), October 3, 2001.

Raptors The potential for occurrence of raptor nests on the site is of concern given the undeveloped mosaic of grassland, woodland and forest cover. The raptor surveys conducted by IES consisted of two daytime visual surveys and two night-time owl calling surveys focusing on spotted owl. Several species of raptors were observed or heard vocalizing on the site by IES, including American kestrel (*Falco sparverius*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), Cooper's hawk (*Accipiter cooperi*), sharp-shinned hawk (*Accipiter striatus*), and great-horned owl (*Bubo virginianus*). No active nests were observed and no spotted owls were heard during the night-time surveys.

Nests of raptors are protected under the Federal Migratory Bird Treaty Act and the Fish and Game Code of California. Northern spotted owl is federally listed as threatened and is considered a CSC species by the CDFG. As described by IES, the nearest known spotted owl nests are over 1.3 miles away from the site in Annadel State Park to the west, on Santa Rosa Creek north of Buzzard Peak, and southwest and northeast of Glen Ellen. Potential use of the site for breeding activity is considered unlikely due to this large distance, the lack of any spotted owls seen or heard during the surveys by IES, and poor habitat characteristics on the site. The CDFG has also concluded that the wooded lots where residences are proposed do not appear to have appropriate structure for use by northern spotted owl.¹⁹ There is a possibility that new raptor nests could be established on the site in the future before any construction proceeds, particularly for more common species such as red-tailed hawk, red-shouldered hawk, and American kestrel. Several other species of raptors most likely occasionally forage in the vicinity, but were not observed during the surveys, such as golden eagle (*Aquila chrysaetos*), peregrine falcon (*Falco peregrinus anatum*), prairie falcon (*Falco mexicanus*), white-tailed kite (*Elanus leucurus*), and northern harrier (*Circus cyaneus*). Ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), and bald eagle (*Haliaeetus leucocephalus*) are most likely winter migrants and uncommon aerial transients that may forage and roost in the project vicinity, but essential breeding habitat for these species is absent.

REGULATORY FRAMEWORK

In addition to protection provided by state and federal regulations, such as the Endangered Species Acts and Clean Water Act, the County of Sonoma recognizes the importance of preserving sensitive biological and wetland resources. Local protection includes relevant goals and policies in the Open Space and the Conservation Elements of the *Sonoma County General Plan*, and County ordinances related to the protection of trees. A list of applicable goals and policies in the *General Plan*, and degree of project conformance is provided in **Chapter 4.0 Consistency with Public Plans and Zoning**. The tree protection ordinances are summarized below.

The Sonoma County Tree Ordinance No. 4044 regulates the removal of certain designated trees, including oaks, madrone, redwood, and California bay. "Protected trees" are defined as trees having a minimum trunk diameter of nine inches measured at 4.5 feet above grade. According to the ordinance, protected trees are to be replaced at a 1:1 ratio or proposed removal is not to exceed 50 percent of the protected trees on a site. Douglas fir is not considered a protected tree species under this ordinance.

The Sonoma County Heritage Tree Ordinance No. 3651 provides for the identification and protection of designated heritage trees. None of the trees on the project site, however, have been nominated or designated as heritage trees.

¹⁹ *Sonoma Country Inn Vegetation and Wildlife Issues Clarification*, Graywood Ranch, Kenwood, Robert Floerke, California Department of Fish and Game, letter to Ms. Denise Peter, County of Sonoma, March 21, 2002.

In 1997, regulations also went into effect regarding the protection of valley oaks. These consisted of a General Plan amendment to include new policies to identify and protect valley oaks, a zoning ordinance text amendment establishing the Valley Oak Habitat (VOH) combining district zoning and requiring mitigation where tree removal is proposed, a zoning ordinance map change designating areas with soils which tend to support valley oak, and establishment of general guidelines required in the VOH zoning district. The soil types on the site do not include any of those identified under Policy RC-5f of the *General Plan Resource Conservation Element* and the VOH combining district. Ordinance No. 4991 provides a definition of “large valley oak” (diameter at breast height greater than 20 inches) and “small valley oak” (diameter at breast height of 20 inches or less), and identifies mitigation options. Mitigation depends on tree size or the cumulative diameter for smaller oaks, and must be implemented within one year of tree removal. Mitigation options include retention of existing trees, replacement plantings, a combination of retention and replacement, or payment of in-lieu fees. The mitigation requirements are not rigorous, ranging from a requirement to retain one or more trees for every one removed, to a 50 dollar in-lieu fee to be used for replacement plants of valley oak by the County. No permit is issued by the County, but a written notice must be filed at least five days prior to tree removal. The Stewardship Guidelines defined in County Resolution No. 96-1624 emphasize the importance of retaining valley oaks to the extent possible and providing valley oak plants as part of landscaping for all development projects.

Biological Resources – Significance Criteria

The biological resources analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant biological resources impact if it:

- x Had a substantial adverse effect, either directly or through habitat modifications, on any special-status species.
- x Had a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS.
- x Had a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means.
- x Interfered substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- x Conflicted with any local policies or ordinances protecting biological resources (such as a tree preservation policy or ordinance).
- x Conflicted with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Biological Resources -- Impacts and Mitigation Measures

PROJECT PROVISIONS RELATED TO BIOLOGICAL RESOURCES

Several aspects of the proposed project address vegetation management and protection of sensitive biological resources on the project site. Vegetation management issues are described in the project application²⁰ and include provisions related to valley oak regeneration, Sudden Oak Death (SOD) disease, conifer management, vegetation removal, and conformance with the County's tree protection ordinances. As noted previously, the arboricultural evaluation by MA provides a proposed outline for a Vegetation Management Plan for the site, further addressing SOD, fire hazard management, noxious weed control, tree protection and removal mitigation, and erosion control. The proposed project includes preserves to protect the populations of Sonoma ceanothus and narrow-anthered California brodiaea, the two stands of valley oak, and an area identified as a Native Grassland Preserve east of the proposed Wastewater Disposal Area for the winery. Additional recommendations have been made in the reports by WRA and IES regarding avoidance of the special-status plants, need for preconstruction surveys for nesting raptors, and avoidance of creeks and drainages. The adequacy of the proposed management and protection provisions of the project is reviewed below under the various impact discussions.

The project site currently has a high to very high fire hazard rating, and management of the existing vegetation is necessary to both reduce the potential for destructive wildfires and the possible loss of property and life if the project is implemented. The existing hazard on the site is due to fire suppression, lack of vegetation management, and characteristics of the natural vegetation, particularly the chaparral which is dependent on fire for periodic clearing and growth stimulation. According to MA, many of the larger Douglas fir and oaks show signs of stress due to past wildfires. When fuel loads accumulate and conditions are right, wildfires can move into the tree canopy and reach temperatures which kill the existing vegetation, having a significant effect on the forest and woodland habitat of an area. The CDFG has expressed concern over the fire hazard posed by existing vegetation and concur that the proposed fire thinning plan for understory chaparral and select trees would reduce this hazard with probably minimal effect on wildlife.²¹

The County Department of Emergency Services has specific requirements regarding vegetation management and maintenance which are intended to address fire hazards.²² Minimum defensible space zones are required around structures to reduce the potential fire hazard. These requirements vary depending on distance from structures, slope, and other variables, but include clearance of groundcover within 30 feet of structures and tree limbs within ten feet of the ground. Thinning of tree canopies and selective tree removal is required up to 150 feet from structures to provide crown separation and removal of all ladder fuels, dead material, and seedlings and saplings. The Vegetation Management Plan outlined by MA addresses most of these requirements, with the exception of the crown separation on steeper slopes within 150 feet of building envelopes.

²⁰ *Sonoma Country Inn Project Description*, Common Ground Land Planning Services, December 2000, pages 8 and 9.

²¹ *Sonoma Country Inn Vegetation and Wildlife Issues Clarification*, Graywood Ranch, Kenwood, Robert Floerke, *op. cit.*

²² The Sonoma County Department of Emergency Services, Fire Services initial vegetation management and maintenance requirements are set forth in a memo to Mike Morrison, Common Ground Land Planning Services from Peter Martin, Sonoma County Department of Emergency Services, December 11, 2001.

Impact 5.6-1 Special-Status Species

The proposed project could have a substantial adverse effect on the populations of narrow-anthered California brodiaea and Sonoma ceanothus, and could affect raptor nests if established on the site prior to construction. These would be significant impacts.

Proposed development could have a significant adverse effect on the two populations of special-status plant species known to occur on the site, narrow-anthered California brodiaea and Sonoma ceanothus. Although the Development Plan indicates that most of the area containing these two occurrences would be contained within proposed preserves, there are no details on how these areas would be protected during construction, and what long-term management would be provided to permanently protect the populations. Past and on-going activities (such as off-road vehicle damage to wetlands and vegetation, brush clearing and chipping, and well drilling) in the vicinity of the wet meadow where the brodiaea population occurs and removal of at least one of the Sonoma ceanothus plants indicate that the existing management practices may not adequately protect these resources.

Proposed development would surround the population of narrow-anthered California brodiaea, making it particularly vulnerable to direct and inadvertent damage.²³ As currently proposed, the common driveway to residential lots 3 and 4 would pass through the southeastern edge of the population, based on mapping prepared by WRA in 2000. The proposed driveway alignment does not follow the existing unpaved road through this area, and its construction would most likely result in loss of individual brodiaea plants. The proposed inn's spa building would be constructed less than 200 feet upgradient from the brodiaea occurrence, and other new structures, parking lots, and impervious surfaces would be located within the subwatershed of the ephemeral drainage which passes through the population and the associated wet meadow. As discussed in **Section 5.3 Hydrology and Water Quality** (see Impact 5.3-5 Increased Flows to the Narrow-anthered California Brodiaea Colony), new impervious surfaces created by the project would contribute to an increase in post-development runoff levels by an estimated 13 percent for the subwatershed encompassing the brodiaea occurrence, which could result in increased erosion and sedimentation, changes in the soil moisture balance, and other factors affecting the long-term viability of the population. Surface water quality could also be degraded as a result of project-generated pollutants that are carried by surface runoff into the brodiaea occurrence and associated wet meadow, as discussed in **Section 5.3 Hydrology and Water Quality** (see Impact 5.3-2 Water Quality Impacts from Project-Related Runoff Pollutants).

Most of the Sonoma ceanothus population would be avoided by the proposed project, located within the proposed preserve and outside the limits of most of the proposed development. However, several aspects of the project could require disturbance within the population and result in removal of individual plants. The proposed water tank would be sited at the edge of the preserve on the upper elevations of residential lot 10. The boundary of the Ceanothus Preserve was based on GPS mapping by WRA, and it is likely that a number of individual plants would be removed to accommodate grading and access for the tank at this location. The project description indicates that a fire break or other approved method would be constructed to separate the developed plateau area from the steeper slopes which encompass the chaparral and ceanothus preserve. The proposed trail would also pass through the upper elevations of the site and into the ceanothus preserve above residential lot 11. Although the system of existing fire trails which generally follow the alignment of Road A and traverse the upper edge of residential lot 11 provide an existing route for both a fire break and trail, the design and specific alignment of these features has not been defined. It is possible that their construction could require removal of chaparral vegetation, possibly including Sonoma ceanothus plants. However, if carefully designed and constructed, these improvements

²³ *Sonoma Country Inn Vegetation and Wildlife Issues*, Robert Floerke, *op. cit.*

should not have a significant impact on the overall viability of the Sonoma ceanothus population given the largely undisturbed habitat in the proposed preserve.

While no raptor nests were observed on the site during the surveys conducted by IES, there is a potential for new nests to be established prior to project implementation, or during later phases of construction. Tree removal or disturbance in the immediate vicinity of a nest in active use could result in abandonment of the nest or loss of eggs and young, which would be a violation of the Migratory Bird Treaty Act.

No other significant impacts on special-status species are anticipated. No other special-status plant species were encountered during detailed surveys conducted by WRA. Due to the absence of suitable habitat, no potential impacts on California red-legged frog, yellow legged frog, California freshwater shrimp, northern spotted owl, steelhead, or California tiger salamander are anticipated.

Mitigation Measure 5.6-1 The following measures would be required to mitigate potential impacts on special-status species:

Mitigation Measure 5.6-1(a) Revise the proposed development plan/tentative map to restrict improvements outside the known distribution of the narrow-anthered California brodiaea and Sonoma ceanothus populations to the maximum extent feasible. At minimum this shall include:

- (1) Avoid the mapped occurrence of Sonoma ceanothus by relocating the water tank location on residential lot 10 to below an elevation of 880 feet and restricting any associated access and pipeline distribution improvements downslope of this elevation, if this location is selected as the water tank site for the project, or use the adjusted location at the alternate tank site.
- (2) Design and construct any fire break improvements to avoid individual Sonoma ceanothus plants by avoiding the limits of the proposed preserve to the maximum extent practicable.
- (3) Adjust the proposed alignment of the common driveway to residential lots 3 and 4 to follow the existing dirt road where it passes through the brodiaea population, and minimize the width of the driveway and any disturbance required to install the culvert crossing over the ephemeral drainage through the population.
- (4) Relocate the northern end of the common driveway to residential lots 3 and 4 to avoid the northern wet meadow and potentially suitable habitat it and the intervening mosaic of grassland and woodland provides for the brodiaea, and prohibit any utility lines, roadways, or other improvements through the preserve with the exception of the common driveway to residential lots 3 and 4, and improvements contained within the common driveway.
- (5) Install utilities to residential lot 3 and 4 either under the common driveway or around the Brodiaea Preserve.

Mitigation Measure 5.6-1(b) A final Mitigation Plan shall be prepared by a qualified botanist to provide for permanent protection of the narrow-anthered California brodiaea population on the site. The Mitigation Plan shall be prepared in consultation with the CDFG and meet with the approval of the County Permit and Resource Management Department staff. The Mitigation Plan shall define measures which ensure protection of the population, salvage of any seed and/or individual plants within the limits of grading, replanting of salvaged material in suitable protected habitat, long-term management requirements, and monitoring of the habitat protection and salvage efforts. The Mitigation Plan shall include the following components, subject to refinement by CDFG:

- (1) Establish in the Codes, Covenants, and Restrictions (CC&Rs) for the subdivision a biotic resource preserve encompassing the brodiaea population. Expand the proposed Brodiaea Preserve to encompass the portion of the brodiaea population upgradient of the proposed common driveway to residential lots 3 and 4; the two mapped wet meadow/seasonal wetlands, and the intervening grassland and woodland (see Exhibit 5.6-3). Exhibit 5.6-3 is a conceptual plan for biotic preserves. Final boundaries of expanded preserves will be determined in the field in consultation with CDFG.
- (2) Identify a method to permanently prevent vehicle access into the expanded Brodiaea Preserve that includes an effective barrier system where the preserve borders future roadways (such as a rustic fence, posts, or large boulders) and placement of permanent signage at 50-foot intervals around the perimeter of the preserve that states:

Sensitive Natural Area
No Vehicle or Pedestrian Access
Please Do Not Pick Wildflowers

- (3) Develop and implement a vegetation management program for the expanded Brodiaea Preserve that prohibits planting of any landscaping or native trees required as tree replacement mitigation, ensures that adequate controls are in place to prevent significant changes in the upstream runoff volumes and degradation of water quality along the ephemeral drainage that flows through the population, and that provides for controlled removal of invasive species which could threaten the integrity of the populations, focusing on broom and yellow star thistle, but addressing other species as necessary. The invasive species removal program shall require annual hand removal of invasive species and disposal at a landfill, with no vehicle equipment operation within the preserve.
- (4) Implement the drainage plan and storm water runoff control program called for in Mitigation Measures 5.3-2 and 5.3-5 to prevent changes in peak flow, runoff volumes, and water quality degradation that could affect the brodiaea population and associated potential seasonal wetland.
- (5) Install exclusionary construction fencing around the perimeter of the wet meadow and expanded Brodiaea Preserve to protect these resources and prevent access by equipment, vehicles, and workers during project construction. Exclusionary fencing shall be installed under the supervision of a qualified botanist to ensure avoidance of wetlands and brodiaea habitat. Exclusionary fencing shall extend along both sides of the construction zone for the common driveway to residential lots 3 and 4, and encompass the length of the ephemeral drainage and surrounding grassland where brodiaea individuals were mapped by WRA in 2001. The exclusionary fencing shall remain in place until construction has been completed and the permanent barrier system and protective signage have been installed around the perimeter of the preserve.
- (6) Salvage seed and individual brodiaea plants within the limits of grading at the appropriate time of year for reseeding/installation in habitat to be permanently preserved.
- (7) Specify performance criteria, maintenance and long-term management responsibilities, monitoring requirements, and contingency measures. Monitoring shall be provided for a minimum of five years and continue until any specified performance criteria are met.

Mitigation Measure 5.6-1(c) A final Mitigation Plan shall be prepared by a qualified botanist to provide for permanent protection of the Sonoma ceanothus population on the site. The Mitigation Plan shall be prepared in consultation with the CDFG and meet with the approval of the County Permit and Resource Management Department staff. The Mitigation Plan shall define measures which ensure protection of the

EXHIBIT 5.6-3

population, salvage of any seed and/or individual plants within the limits of grading, replanting of salvaged material in suitable protected habitat, long-term management requirements, and monitoring of the habitat protection and salvage efforts. The Mitigation Plan shall include the following components subject to refinement by CDFG:

- (1) Establish in the CC&R's for the subdivision an open space/biotic resource preserve which encompasses the area containing the population of Sonoma ceanothus and the surrounding chaparral and mixed evergreen forest generally north of the Rancho Los Guilicos grant line and the portion of the site south of the grant line encompassing Sonoma ceanothus plants on residential lots 10 and 11. See Exhibit 5.6-3, which is a conceptual plan for biotic preserves. Final boundaries of expanded preserves will be determined in the field in consultation with the CDFG.
- (2) Install exclusionary construction fencing on the uphill limits of grading in the vicinity of the Sonoma Ceanothus Preserve to prevent inadvertent loss of individual plants through unauthorized incursion into the chaparral. Exclusionary fencing shall be installed under the supervision of the qualified botanist to ensure avoidance of individual shrubs. The exclusionary fencing shall remain in place until construction has been completed.
- (3) Salvage any seed and individual ceanothus plants within the limits of grading at the appropriate time of year for reseeded/installation in habitat to be permanently preserved.
- (4) Specify performance criteria, maintenance and long-term management responsibilities, monitoring requirements, and contingency measures. Monitoring shall be provided for a minimum of five years and continue until any success criteria are met.

Mitigation Measure 5.6-1(d) Any active raptor nests in the vicinity of proposed grading shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. Avoidance may be accomplished either by scheduling grading and tree removal during the non-nesting period (September through February), or if this is not feasible, by conducting a pre-construction survey for raptor nests. Provisions of the pre-construction survey and nest avoidance, if necessary, shall include the following:

- (1) If grading is scheduled during the active nesting period (March through August), a qualified wildlife biologist shall conduct a pre-construction raptor survey no more than 30 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity. This shall include both a day time visual survey for all raptors and a night-time survey for nesting owls.
- (2) If active raptor nests are encountered, species-specific measures shall be prepared by a qualified biologist in consultation with the CDFG and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of the nest shall be deferred until the young birds have fledged. A nest-setback zone of at least 300 feet shall be established within which all construction-related disturbance shall be prohibited. The perimeter of the nest-setback zone shall be fenced or adequately demarcated, and construction personnel restricted from the area.
- (3) If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest-setback zone until a qualified biologist verifies that the birds have either a) not begun egg-laying and incubation, or b) that the juveniles from the nest are foraging independently and capable of independent survival at an earlier date. A survey report by the qualified biologist verifying that the young have fledged shall be submitted to PRMD prior to initiation of grading in the nest-setback zone.

Significance after Mitigation Implementation of Mitigation Measures 5.6-1(a) through 5.6-1(d) would reduce potential impacts on special-status species to less-than-significant levels.

Responsibility and Monitoring Project approval should be conditioned on incorporating Mitigation Measures 5.6-1(a) through 5.6-1(d) into the Development Plan. Revisions to the limits of grading, lot line and preserve boundaries, roadway and driveway locations, and other modifications should be incorporated into the final map. The applicant would be responsible for preparing the Mitigation Plans addressing the brodiaea and ceanothus populations. The mitigation should be completed prior to filing of the final subdivision map, and all conditions and recommendations incorporated into the respective plans. Monitoring should be performed during the five year monitoring period as called for in the Mitigation Plans. Preconstruction surveys should be conducted no more than 30 days prior to initiation of grading and tree removal if performed during the nesting period from March through August.

Impact 5.6-2 Loss of Sensitive Natural Communities

The proposed project would result in loss of important native habitat and sensitive natural community types. This would be a significant impact.

The applicant has expressed an intent to develop proposed facilities and roads in a manner which minimizes tree removal and disturbance to known sensitive resources. However, these would be insufficient as proposed to adequately mitigate potential impacts on sensitive natural communities and important habitat. Detailed assessments of the potential impacts of the project on the occurrences of special-status plants and the potential seasonal wetlands are provided under Impacts 5.6-1 and 5.6-3, respectively. With regard to the riparian habitat of the Graywood Creek corridor, most of the proposed structures and parking would be located a minimum of 50 feet from the main creek channel. Road A would create a new crossing over Graywood Creek and then follow the alignment of the existing dirt road to the plateau area where the inn/spa/restaurant and most of the residential lots would be located. Using the existing road alignment would serve to limit tree removal, but would create a permanent roadway within 50 feet of the creek channel. At one location the existing road encroaches to within ten feet of the top-of-bank. Accommodating the road and trail would require grading on the slope above the existing dirt road, resulting in considerable tree removal and disturbance to the forest and woodland cover, although this can not be accurately characterized as riparian habitat.

Most of the woodland and forest on the site are not technically considered a sensitive natural community type by the CDFG, but are of concern because of their habitat value, age of the tree cover, and effects of development on habitat function. The Sonoma County Agricultural Preservation and Open Space District (SCAPOSD) has mapped the woodlands on the mid to low elevations of the site as Priority Oak Woodlands and the main channel of Graywood Creek as a Priority Riparian Corridor in their *Acquisition Plan 2000*²⁴ providing an indication of their importance as habitat worthy of preservation and vulnerability to development pressures. Further assessment of the potential impacts of the project on woodland and forest habitat is provided under Impact 5.6-4, including the anticipated loss of tree resources that contribute to the existing habitat values on the site.

Mitigation Measure 5.6-2 The following measures would be required to mitigate potential impacts on sensitive natural communities:

²⁴ *Acquisition Plan 2000, A Blueprint for Agricultural and Open Space Preservation*, Sonoma County Agricultural Preservation and Open Space District (SCAPOSD), July, 2000.

Mitigation Measure 5.6-2(a) Revise the proposed development plan/tentative map to avoid disturbance to the sensitive natural communities. At minimum this shall include:

- (1) Prohibit roadway improvements any closer to Graywood Creek than the edge of the existing road where improvements would be within 50 feet of the top of bank.
- (2) Use retaining walls and other methods where feasible to minimize tree removal along Road A through the Graywood Creek corridor.
- (3) Design the trail to be as natural as possible between Road A and Graywood Creek, minimizing the use of any asphalt pavement within the riparian corridor and grading required to accommodate the proposed right-of-way improvements.
- (4) Prohibit all improvements such as the proposed mound wastewater system inside the boundaries of the proposed Oak Tree Preserves.
- (5) Expand the proposed Oak Tree Preserves to include creation of additional valley oak habitat along the boundary of the site east of the proposed northern preserve and extending to the riparian corridor of Graywood Creek (see Exhibit 5.6-3). All agricultural activity shall also be prohibited within these preserves, including vineyard planting, dumping of trash or vineyard prunings, and storage of equipment. Any mitigation tree planting within the oak preserve shall be scattered to create an open savanna and shall maintain grassland over at least 25 percent of the area. Exhibit 5.6-3 is a conceptual plan for biotic preserves. Final boundaries of expanded preserves will be determined in the field in consultation with the CDFG.
- (6) Establish a Riparian Preserve over the Graywood Creek corridor, extending 50 feet from the top-of-bank along the length of the main channel (see Exhibit 5.6-3). This preserve shall function as a natural riparian corridor across the site, within which all structures other than Road A, new creek crossing, and park trail shall be restricted. All agricultural activity shall also be prohibited within this preserve, including vineyard planting, dumping of trash or vineyard prunings, and storage of equipment. Exhibit 5.6-3 is a conceptual plan for biotic preserves. Final boundaries of expanded preserves will be determined in the field in consultation with the CDFG.
- (7) Identify locations where restoration of natural habitat shall occur along Graywood Creek as part of the revised Vegetation Management Plan for the project. These shall include the existing crossing location of the main channel and road segments where they approach the creek crossing, and the existing off-site road segment that would no longer be used when Road A is constructed where it veers eastward away from the creek channel.

Mitigation Measure 5.6-2(b) A final Vegetation Management Plan shall be prepared by the applicant's certified arborist in consultation with the botanist called for in Mitigation Measure 5.6-1(b) and 5.6-1(c). The final Vegetation Management Plan shall be expanded to address protection and management of woodland, forest, riparian, chaparral, wetland, and grassland habitat on the site. Revisions to the Vegetation Management Plan outline prepared by MA in 2000 shall incorporate additional provisions to protect and manage the expanded Brodiaea Preserve recommended in Mitigation Measures 5.6-1(a) and 5.6-1(b), the seasonal wetland habitat recommended in Mitigation Measures 5.6-1(a) and 5.6-3(a), the expanded Sonoma Ceanothus Preserve and associated chaparral habitat in Mitigation Measures 5.6-1(a) and 5.6-1(b), the expanded Oak Tree Preserves and their function to maintain valley oak habitat on the site in Mitigation Measure 5.6-2(a), and the Riparian Corridor Preserve along Graywood Creek in Mitigation

Measure 5.6-2(a). These shall include use of rustic fencing or other methods and signage to prevent vehicle and pedestrian access into preserves, where necessary.

Significance after Mitigation Implementation of Mitigation Measures 5.6-2(a) and 5.6-2(b) would serve to minimize disturbance to sensitive natural communities to less-than-significant levels.

Responsibility and Monitoring Project approval should be conditioned on incorporating Mitigation Measures 5.6-2(a) and 5.6-2(b) into the Development Plan. Revisions to the limits of grading, lot line and preserve boundaries, roadway and driveway locations, and other modifications should be incorporated into the final subdivision map, Grading Plan, and Landscape Plan. The applicant would be responsible for preparing the final Vegetation Management Plan which should be completed prior to filing of the final subdivision map, and all conditions and recommendations incorporated into the respective plans. Monitoring and long-term maintenance should be performed as required by the Mitigation Plans and the Vegetation Management Plan.

Impact 5.6-3 Loss of Wetlands and Drainages

The proposed project could result in loss and modifications to jurisdictional wetlands and other waters, and could contribute to degradation of downstream areas. This would be a significant impact.

Potential impacts to wetlands would include direct modifications to jurisdictional waters to accommodate roadway crossings and development, and indirect changes associated with the increased potential for erosion and water quality degradation. Potential erosion and degradation of the wetland and riparian habitat may result from increased urban runoff volumes and degraded water quality associated with proposed development. Proposed development would magnify the volume of runoff and potential for urban pollutants, with potential damage resulting from increased erosion, sedimentation during the construction phase of the project, and new non-point discharge of automobile by-products, fertilizers, and herbicides.

Several aspects of the proposed development could affect the northern seasonal wetlands mapped by Valerius. The proposed common driveway to residential lots 3 and 4 would bisect the northern seasonal wetland, requiring fill and possibly extensive modification to this feature. The alignment of Road B would also pass over a small portion of this seasonal wetland and the two ephemeral drainages which flow into this feature. As currently proposed, the building envelope on residential lot 5 would be sited on the ephemeral drainage which crosses this lot. This could contribute to significant erosion of exposed soils during rainfall events, and deposition of sediment in the downstream ~~potential~~ seasonal wetland.

With adequate controls, direct disturbance to the southern seasonal wetland would be avoided. The proposed common access to residential lots 3 and 4 would pass approximately 100 feet upslope from this feature over the ephemeral drainage which passes by the proposed inn's spa building. This drainage continues across residential lot 7, and up the steep slope into the chaparral-covered slope. The proposed building envelopes, western leachfield location, and fill required to accommodate the alternative water tank on residential lot 7 would all be sited over segments of this ephemeral drainage. Grading and fill on residential lot 7 along this ephemeral drainage, and the substantial changes in the quantity and quality of runoff generated by the impervious surfaces associated with the inn's spa building could significantly affect the southern seasonal wetland. Increased runoff volumes during storm events, sedimentation of soils disturbed along the ephemeral drainage, and loss of plant growth could all adversely affect the functioning of the wetland and viability of the brodiaea population which occurs in the vicinity.

Mitigation Measure 5.6-3 The following measures would be required to mitigate potential impacts on wetlands and jurisdictional waters:

Mitigation Measure 5.6-3(a) Revise the proposed Development Plan and tentative map to restrict improvements outside the seasonal wetlands and minimize disturbance to the ephemeral drainages on the site. At minimum this shall include:

- (1) Expand the proposed Brodiaea Preserve to include both of the seasonal wetlands and the intervening grassland and woodland habitat (see Exhibit 5.6-3). Exhibit 5.6-3 is a conceptual plan for biotic preserves. Final boundaries of expanded preserves will be determined in the field in consultation with the CDFG.
- (2) Relocate the proposed common driveway to residential lots 3 and 4 to avoid the northern seasonal wetland and associated habitat as described in Mitigation Measure 5.6-1(a).
- (3) Accurately map the ephemeral drainages which cross the inn parcel (Parcel B) and proposed residential lots 5, 6, and 7 using GPS, and adjust the proposed building envelopes, leachfields, and parking on these parcels to provide a minimum 30-foot setback from these drainages. No equipment operation or other disturbance shall occur within this setback zone, except for roadway and driveway crossings.
- (4) Adjust the alignment of Roads A and B to avoid the main portion of the northern seasonal wetland, and avoiding the narrow band of wetland along the existing vehicle rut to the extent feasible.
- (5) Adjust the design of Road A, the access road to the inn parcel, and the driveways to residences on residential lots 5, 6, and 7 to minimize the width and length of the crossings to the ephemeral drainages which flow through these parcels. Crossings should be made perpendicular to the drainage channels, to the maximum extent feasible.

Mitigation Measure 5.6-3(b) As recommended in Mitigation Measure 5.3-2, a Stormwater Pollution Prevention Plan shall be prepared and implemented using Best Management Practices to control both construction-related erosion and sedimentation and project-related non-point discharge into waters on the site. The plan shall contain detailed measures to control erosion of exposed soil, provide for revegetation of graded slopes before the start of the first rainy season following grading, address non-point source pollutants to protect wetlands and water quality in the drainages, and specify procedures for monitoring of the effectiveness of the measures. These measures shall be integrated with the provisions to prevent changes in peak flow and runoff volumes that could adversely affect the seasonal wetlands, as recommended in Mitigation Measure 5.3-5.

Mitigation Measure 5.6-3(c) A bridge or arched culvert shall be used for the Graywood Creek crossing to minimize disturbance to jurisdictional waters in the channel and provide for a natural bed under the structure. The width of the crossing structure shall be kept to a minimum acceptable from a traffic safety standpoint, and construction improvements implemented with caution to minimize disturbance to the channel and loss of vegetation along the creek. Construction shall be performed during the low flow period in the creek, from July through October, and construction debris kept outside of the creek channel through use of silt fencing.

Mitigation Measure 5.6-3(d) Restrict construction of roadway and driveway improvements within 100 feet of the seasonal wetlands and ephemeral drainages to the summer months after these features contain no surface water to minimize disturbance and the potential for sedimentation.

Mitigation Measure 5.6-3(e) All necessary permits shall be secured from regulatory agencies as required to allow for modifications to wetlands and stream channels on the site. This may include additional requirements for mitigation as a condition of permit authorization from the Corps, CDFG, and RWQCB. Evidence of permit authorization shall be submitted to the County Permit and Resource Management Department prior to issuance of any grading or building permits by the County to ensure compliance with applicable State and federal regulations.

Significance after Mitigation Implementation of Mitigation Measures 5.6-3(a) through 5.6-3(e) to protect the seasonal wetlands and minimize disturbance to jurisdictional waters would reduce significant impacts to less-than-significant levels.

Responsibility and Monitoring Project approval should be conditioned on incorporating Mitigation Measures 5.6-3(a) through 5.6-3(e) into the Development Plan. Revisions to the limits of grading, lot line and preserve boundaries, roadway and driveway location, and other modifications should be incorporated into the final subdivision map, Grading Plan, and Landscape Plan. The applicant would be responsible for preparing the Stormwater Pollution Prevention Plan which should be completed prior to filing of the final subdivision map, and all conditions and recommendations incorporated into the respective plans. Coordination with jurisdictional agencies should be completed prior to filing of the final subdivision map, and all conditions incorporated into the respective plans, with evidence of compliance submitted to the County Permit and Resources Management Department prior to issuance of any grading or building permits. Monitoring and long-term maintenance should be performed as required by the Mitigation Plan and the Stormwater Pollution Prevention Plan.

Impact 5.6-4 Wildlife Habitat and Connectivity Impacts

The proposed project would interfere substantially with wildlife movement opportunities. This would be a significant impact.

As discussed under Impact 5.6-2, the project would have a substantial impact on the natural communities on the site, and the associated wildlife habitat values. Proposed development would extend over much of the property, replacing existing habitat with structures, parking, roadways, and landscaping. The cover provided by trees, shrubs, and groundcover vegetation would be fragmented to accommodate structures and clearing required for fire hazard management. This includes possible extension of water tanks and the building envelopes on residential lots 7 and 11 into the important ecotone or transition from forest to chaparral, and obstruction of the ephemeral drainages which cross the site. Wildlife species dependent on the resources currently available on the site may be displaced by those typical of suburban and agricultural habitats, including several that may be attracted to ornamental landscaping and available garbage if not properly secured. Use of exclusionary fencing would further obstruct wildlife movement across the site. Increased vehicle and human activity, night-time lighting, and uncontrolled pets would all contribute to the reduction in value of the developed portion of the site to many wildlife species. Due to the extent of development and changes in the habitat conditions on the site, the proposed project would permanently alter the suitability of much of the site as natural habitat for a number of wildlife species, such as deer, gray fox, and bobcat.

Clearing to accommodate new structures, roadways, leachfields, waste disposal areas, and thinning to address fire hazard management would result in a significant impact on the woodland and forest communities on the site. MA made revised tree removal estimates for the building envelopes on the

residential lots, averaging 23 trees per building envelope.²⁵ However, this estimate does not include additional tree removal necessary to accommodate leachfields, driveways, and tree thinning to achieve canopy separation required as part of fire hazard management. Proposed development includes possible extension of water tanks and residential building envelopes on residential lots 7 and 11 into the important ecotone or transition from forest to chaparral. Proposed leachfield improvements for residential lots and the inn/spa/restaurant would require tree removal where currently sited. The proposed mound system intended for possible expansion capacity for the inn/spa/restaurant would extend into one of the Oak Tree Preserves shown on the proposed Development Plan/tentative map.²⁶ Because of the potentially high fire danger on the site, fuel modification requirements would require thinning of existing cover up to 150 feet from all structures. Within 50 feet of structures, only single specimen trees may be retained. Between 50 to 150 feet of structures, crown separation is also required depending on slope.

A precise estimate of the total number of protected trees to be removed by the project is not possible, but may be close to the average range originally identified by MA.²⁷ or about 3,000 trees. This would represent approximately 15 percent of the total number of trees estimated on the site, well below the threshold identified in the Sonoma County Tree Ordinance, but would still represent a significant loss of tree resources and the woodland and forest habitat. While the required tree removal may increase available light in the understory and improve conditions for groundcover species, it would substantially alter the ecological structure and function of the woodland and forest habitat, and routine maintenance could limit the value of any newly established groundcover. On-going maintenance would include removal of groundcover species and saplings, permanently altering the structure and value of the woodland and forest habitat in the vicinity of structures. The arboricultural evaluation by MA includes tree protection guidelines and a recommendation to replace “significant” trees to be removed at a ratio of 1:1 or possibly higher in certain areas. It is uncertain where tree replacement plantings could be accommodated given the crown separation requirements and need to protect the open habitat surrounding the Brodiaea Preserve and other remaining grasslands on the site. Possible locations for any tree replacement plantings include the lower elevations of the site near the proposed winery, and along the west side of Graywood Creek near the proposed northern Oak Tree Preserve.

Landscaping and other activities of future residents, employees and visitors could further degrade the value of the remaining natural communities on the site. Possible undesirable activities could include planting of highly invasive non-native plant species, vegetation clearance beyond that specified in the Vegetation Management Plan, and unauthorized off-road vehicle activity. Future residents may remove additional trees to improve light and views or may clear understory and groundcover vegetation to further reduce fire hazards, effecting vegetative cover outside the immediate building envelope. Many species used in landscaping are highly invasive, and could spread to the Brodiaea Preserve, the potential seasonal wetlands, along the riparian corridors, and through the remaining grasslands, woodland, and forest on the site, reducing the native habitat values of the site. The California Exotic Pest Plants Committee²⁸ has

²⁵ *Sonoma Country Inn (Graywood Ranch) – Tree Count Estimates*, MacNair & Associates, *op. cit.*

²⁶ *Sonoma Country Inn, Revised On-Site Wastewater Disposal System Site Suitability Report*, Adobe Associates, undated.

²⁷ *Sonoma Country Inn (Graywood Ranch) – Arboricultural Evaluation Preliminary Recommendations*, MacNair & Associates, letter to Mr. Michael Morrison, Common Ground, December 13, 2000.

²⁸ *The CalEPPC List: Exotic Pest Plants of Greatest Ecological Concern in CA*, California Exotic Pest Plant Council, October 1999.

identified plant species considered to be unsuitable due to their invasive character and tendency to out-compete native flora.

Mitigation Measure 5.6-4 The following measures would be required to mitigate potential impacts on natural habitat and wildlife movement opportunities:

Mitigation Measure 5.6-4(a) Revise the proposed development plan to minimize the loss of woodland and forest habitat on the site. At minimum this shall include:

- (1) Establish in the CC&R's for the subdivision an open space/biotic resource preserve to protect the portion of the site containing chaparral and mixed evergreen forest generally north of the Rancho Los Guilicos grant line, with the exception of the upper building envelope and alternative tank on lot 7 and the portion of the site south of the grant line encompassing Sonoma ceanothus plants on residential lots 10 and 11 (see Exhibit 5.6-3). Exhibit 5.6-3 is a conceptual plan for biotic preserves. Final boundaries of expanded preserves will be determined in the field in consultation with the CDFG.
- (2) Establish conservation easements (or include in the CC & Rs) over residential lots which preclude unauthorized tree removal and vegetation clearance outside the building envelope areas except as allowed in the final Vegetation Management Plan required in Mitigation Measures 5.6-2(b) and 5.6-4(b).
- (3) Eliminate the lower building envelope and western leachfield on residential lot 7, the upper building envelope and upper leachfield on residential lot 11, and the tank site on residential lot 10 to provide a separation in the forest cover between proposed residential use and chaparral habitat, and improve opportunities for wildlife movement along the ephemeral drainage across residential lot 7. Adjusting the limits of the upper building envelope on residential lot 7 and the proposed location of the alternative tank site outside of the ephemeral drainage would serve to protect the cover along the drainage and its function for movement of wildlife across the site.
- (4) Adjust proposed parking and roadway improvements for the winery to avoid additional tree resources, based on an engineering survey of tree trunk locations required as part of the final Vegetation Management Plan called for in Mitigation Measures 5.6-2(b) and 5.6-4(b).
- (5) Adjust proposed parking, roadway, building and leachfield improvements for the inn/spa/restaurant to avoid additional tree resources, based on an engineering survey of tree trunk locations required as part of the final Vegetation Management Plan called for in Mitigation Measures 5.6-2(b) and 5.6-4(b).
- (6) Design and construct the network of roads and driveways using the minimum width that complies with Fire Safe standards.

Mitigation Measure 5.6-4(b) A final Vegetation Management Plan shall be prepared by the applicant's certified arborist in consultation with the botanist called for in Mitigation Measure 5.6-2(b). The final Vegetation Management Plan shall be expanded to address protection and management of woodland, forest, riparian, chaparral, wetland, and grassland habitat on the site. Revisions to the Vegetation Management Plan outline prepared by MA in 2000 shall include the following:

- (1) Expand the provisions related to Fire Hazard Management to define tree removal required to meet minimum canopy separation for trees within 150 feet of structures.

- (2) Revise the Tree Protection Procedures to include a requirement for an engineered survey of all trees to be preserved within 50 feet of structures and anticipated grading to identify trunk location, diameter, species, and general condition, and to allow for a more accurate process to distinguish trees to be preserved and removed as final plans are developed.
- (3) Specify under landscaping provisions that non-native ornamental species used in landscape plantings shall be restricted to the immediate vicinity of proposed development, including building envelopes on residential lots, and that non-native, invasive species which may spread into adjacent undeveloped areas shall be prohibited in landscaping plans.
- (4) Specify under Noxious Weed Control that unsuitable species be prohibited from use in landscaping on the site and that future maintenance of common areas prevent or control undesirable species on the site. These shall include: blue gum eucalyptus (*Eucalyptus globulus*), acacia (*Acacia* spp.), pampas grass (*Cortaderia selloana*), broom (*Cytisus* spp. and *Genista* spp.), gorse (*Ulex europaeus*), bamboo (*Bambusa* spp.), giant reed (*Arundo donax*), English ivy (*Hedera helix*), German ivy (*Senecio milanioides*), Himalayan blackberry (*Rubus discolor*), cotoneaster (*Cotoneaster pannosus*), fennel (*Foeniculum vulgare*), yellow star thistle (*Centaurea solstitialis*), purple star thistle (*Centaurea calcitrapa*), and periwinkle (*Vinca* sp.).
- (5) Specify under site grading that any graded slopes in preserves, along road cuts, and around parking lots shall be reseeded with a mixture of compatible native and non-native perennial and annual species, including purple needlegrass (*Nassella pulchra*), to increase the diversity of the grassland cover. Highly invasive annuals typically used for erosion control shall not be used.

Mitigation Measure 5.6-4(c) Revise the Vegetation Management Plan called for in Mitigation Measures 5.6-2(b) and 5.6-4(b) to provide a program addressing the loss of trees. The enhancement program shall incorporate recommendations in Mitigation Measure 5.6-4(a) to avoid tree resources to the greatest extent possible and provide for replacement plantings in the Oak Tree Preserves, the Riparian Preserve along Graywood Creek, and on grading slopes where tree planting would not conflict with fire management and grassland habitat management restrictions. The enhancement program shall also include provisions for long-term management of tree resources on the site, including areas to be designated as preserves or permanent open space to improve the health of forest and woodland cover and reduce the potential for devastating wildfires.

Mitigation Measure 5.6-4(d) Measures recommended in Mitigation Measures 5.6-1, 5.6-2, 5.6-3 and 5.6-4(a) through 5.6-4(c) would serve to partially protect important natural habitat on the site for wildlife, avoid the potential loss of raptor nests, provide for preservation of wildlife movement opportunities along Graywood Creek and the upper elevations of the site where it borders Hood Mountain County Park, control the loss of woodland/forest habitat, and provide for replacement tree plantings. The following additional provisions shall be implemented to further protect wildlife habitat resources, and shall be defined in CC & Rs for the residential lots:

- (1) Fencing that obstructs wildlife movement shall be restricted to the building envelopes on residential lots, and shall not be allowed elsewhere on the site. Impose a restriction on exclusionary fencing of any vineyards on the lower elevations of the site, if planted in the future in consultation with CDFG..
- (2) Lighting shall be carefully designed and controlled to prevent unnecessary illumination of natural habitat on the site. Lighting shall be restricted to building envelopes on residential lots, and the minimum level necessary to illuminate pathways, parking areas, and other outdoor areas. Lighting shall generally be kept low to the ground, directed downward, and shielded to prevent illumination into adjacent natural areas. Lighting from the winery and inn shall be turned off after employees

leave the site at the end of the day or evening, except the minimum necessary for security purposes.²⁹

- (3) Livestock shall be prohibited on the residential lots and the preserve areas on the site to prevent trampling and removal of groundcover vegetation.
- (4) Dogs and cats shall be confined to individual residences and the fenced portion of the building envelopes to minimize harassment and loss of wildlife, except dogs on leash and cats with bells on collars.
- (5) All garbage, recycling, and composting shall be kept in closed containers and latched or locked to prevent wildlife from using the waste as a food source.

Mitigation Measure 5.6-4(e) Vehicles and motorcycles shall not be allowed to travel off designated roadways to minimize future disturbance to grassland and understory in the undeveloped portions of the site. Methods shall be established to prevent unauthorized vehicle activity during and after construction.

Significance after Mitigation Implementation of Mitigation Measures 5.6-4(a) through 5.6-4(e) together with other habitat protection measures would mitigate potential impacts on native habitat and wildlife resources to less-than-significant levels.

Responsibility and Monitoring Project approval should be conditioned on incorporating Mitigation Measures 5.6-4(a) through 5.6-4(e) into the project. Revisions to the limits of grading, lot line and preserve boundaries, roadway and driveway locations and other modifications called for in Mitigation Measures should be incorporated into the final subdivision map, Grading Plan, and Landscape Plan. Compliance with specific restrictions should be confirmed prior to filing of the final subdivision map, and during subsequent approvals of Grading Plans, Landscape Plans, and Building Plans. Monitoring and long-term maintenance should be performed as required by the Mitigation Plans and the Vegetation Management Plan.

Impact 5.6-5 Cumulative Biological Impacts

With implementation of required mitigation measures the proposed project would not contribute to a cumulative significant loss of woodland, forest, and grassland habitat in the northeastern area of the Sonoma Valley.

The overall cumulative effect of development is dependent on the degree to which significant vegetation and wildlife resources are protected or mitigated. This includes preservation of areas of sensitive natural communities such as valley oak woodland, riparian woodland, and native grasslands, protection of essential habitat for special-status plant species, and avoidance of wetlands. Further environmental review of any specific development proposals in the vicinity of the site should serve to ensure that important biological and wetland resources are protected and properly managed, and to prevent any significant adverse development-related impacts. Most of the cumulative projects identified in the upper Sonoma Valley are proposed along the State Route 12 corridor or involve changes in activities at existing facilities, limiting concern about effects on sensitive biological and wetland resources. However, several are proposed along the fringe of existing development and agricultural use and would result in loss of habitat,

²⁹ Mitigation Measure 5.8-4 requires the project applicant to prepare exterior lighting plans and standards for review by County Permit and Resources Management Department staff.

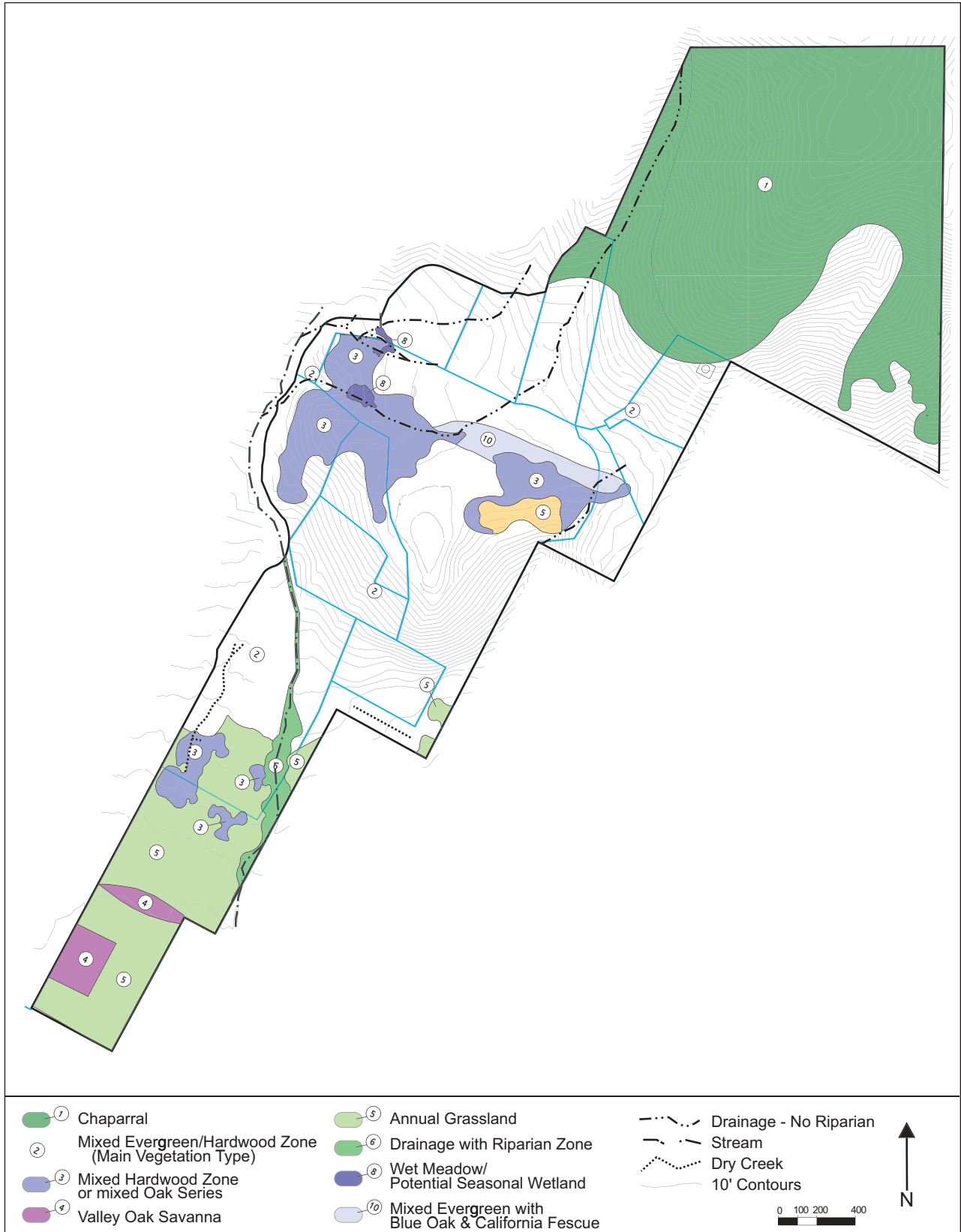
such as the adjacent Graywood Ranch Subdivision and the Las Ventanas resort/spa/restaurant located immediately west of the existing Chateau St. Jean Winery.

Rural residential development, vineyards, and Adobe Canyon Road separate the Las Ventanas Sonoma site from the *Sonoma Country Inn*, and limits the likelihood that these projects would have a substantial cumulative impact on habitat connectivity across this part of the valley floor or undeveloped hillsides. Proposed development on the *Sonoma Country Inn* site would result in the loss of a substantial acreage of non-native grassland, woodland, and forest habitat. The adjacent Graywood Ranch Subdivision project, while limited to only a few new residences, would extend development northeastward into the higher elevation forest and chaparral habitat on the property. Road A on the *Sonoma Country Inn* site is proposed for use as access to two of the proposed new residences on the upper elevations of the Graywood Ranch Subdivision site. Both of these residences would be located northeast of the Rancho Los Guilicos grant line, above which no development is proposed on the *Sonoma Country Inn* site which serves to protect the occurrence of Sonoma ceanothus and provide a transition of protected forest and chaparral on the lower slopes of Hood Mountain. Preservation of the upper elevations of the *Sonoma Country Inn* site would also provide for permanent habitat connectivity across the mid-elevations of the ridge, and compliment the protected habitat in the adjacent Hood Mountain County Park. The proposed extension of residential use northeast of the Rancho Los Guilicos grant line on the Graywood Ranch Subdivision site magnifies the importance of mitigation measures recommended to protect the interface of chaparral and forest habitat and to protect the upper elevations of the *Sonoma Country Inn* site. Measures recommended to minimize disturbance to the main channel of Graywood Creek and provide a preserve over this feature should be extended over the creek where it continues across the Graywood Ranch Subdivision site as well.

Implementation of mitigation measures 5.6-1 through 5.6-4 would reduce the proposed project's contribution to less than cumulatively considerable and therefore less-than-significant.

Mitigation Measure 5.6-5 No mitigation would be required.

**EXHIBIT 5.6-1
VEGETATION MAP**



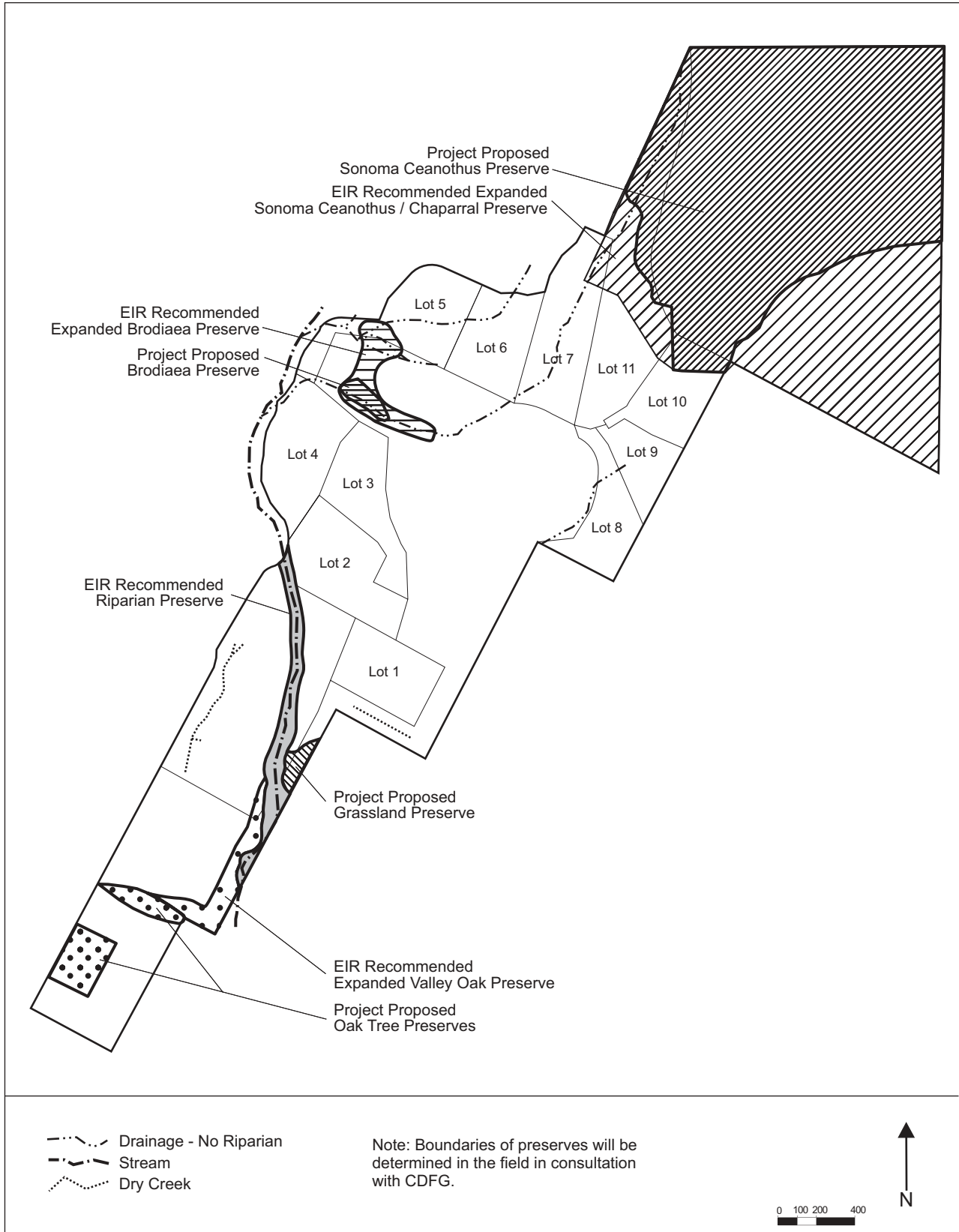
Source: Jane Valerius, Environmental Consulting

EXHIBIT 5.6-2
U.S. ARMY CORPS OF ENGINEERS DELINEATION OF POTENTIAL WETLAND AND WATERS
OF THE UNITED STATES, SONOMA COUNTRY INN



Source: Jane Valerius, Environmental Consulting

**EXHIBIT 5.6-3
RECOMMENDED CONCEPTUAL EXPANDED PRESERVE BOUNDARIES**



Source: Project Applicant and Environmental Collaborative

5.7 GEOLOGY/SOILS

Geology/Soils – The Setting

TOPOGRAPHIC CONDITIONS

The project site is shown on Exhibit 5.7-1. For purposes of discussion in this section, the project site is divided into a lowlands area and an uplands area.¹ The project site is largely within an unsectioned portion of the USGS 7½ minute Kenwood quadrangle. The approximate location of the site corresponds to 38.433 degrees latitude and 122.560 degrees longitude.

The proposed development area lies along the southwest-facing slope of the Mayacmas Mountains, and extends onto the alluvial plain of the Sonoma Valley north of Kenwood, in Sonoma County (see Exhibit 3.0-1).² Elevations across the site range from approximately 450 feet to 850 feet NGVD.³

The southernmost portion of the lowlands area (designated Southern Lowlands Area on Exhibit 5.7-1) is planned for construction of the leachfield systems and wastewater ponds for the inn/spa/restaurant and winery. This area consists of near level to very gently sloping land with elevations ranging from 450 to 470 feet. The winery is proposed for the northern portion of the lowlands area (designated Northern Lowland Area on Exhibit 5.7-1), which rises in elevation slightly to between 470 and 500 feet. The proposed inn/spa/restaurant is located in the central (plateau) portion of the uplands area (designated Upland Plateau Block on Exhibit 5.7-1), and includes mixed terrain including near level to moderately sloping ground. Uplands areas both to the south and north of inn parcel (designated Uplands Area on Exhibit 5.7-1) are designated for single family residential construction, and include a mix of gently to moderately steeply sloping land. Elevations across the entire uplands block range from approximately 520 to 850 feet.

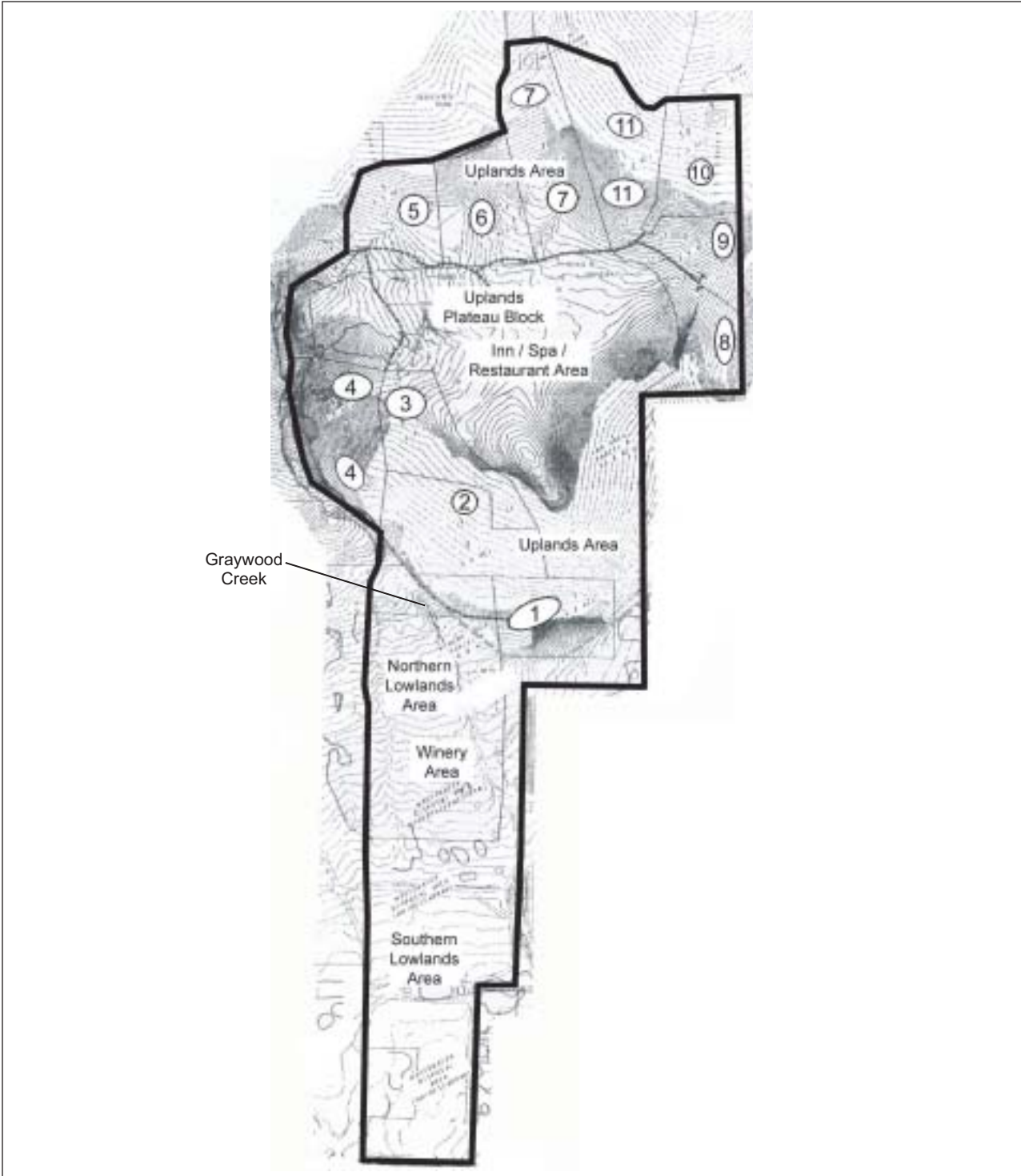
The proposed winery location has relatively broad, shallow drainage channels that display very little evidence of incision and erosion. Terrain is slightly steeper along the flanks of the inn/spa/restaurant area. However, due to the presence of shallow, resistant bedrock the drainage channels are not deeply

¹ The upland/lowland designation in this section differs slightly from the description of the three subareas (south area, central or plateau area, and north area) used in *Chapter 3.0 Description of the Proposed Project*. The upland/lowland designation is based on the *Preliminary Geologic Evaluation, Graywood Ranch Project, Kenwood, California*, prepared by The Geoservices Group, September 17, 2000 and is more descriptive for purposes of geomorphic characterization of the project site than that used in the project description.

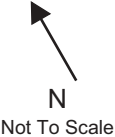
² *Evaluation of Groundwater Resources: Sonoma County*, California Department of Water Resources, Bulletin No. 118-4, 1975.

³ National Geodetic Vertical Datum (NGVD) equivalent to 1929 mean sea level (MSL).

**EXHIBIT 5.7-1
DEVELOPMENT AREAS**



② Proposed Building Envelopes



Source: Herzog Geotechnical & Project Applicant

incised and display only limited erosion. Drainage channels within the residential lots display variable conditions of incision and erosion, depending on the terrain steepness and underlying bedrock condition. The area of most active erosion is associated with Graywood Creek, which flows along the western property boundary.

The steeper slopes of the residential lots in the central and upper portions of the project site have slightly hummocky and irregular topography which is suggestive of minor soil creep.

REGIONAL GEOLOGY

The project site is located in California's Coast Range Geomorphic Province which is characterized by complexly folded and faulted bedrock that ranges in age from approximately upper Jurassic to Tertiary. This geologic time span encompasses approximately 160 million years and throughout this time the sedimentary, igneous, and metamorphic rocks have been tectonically raised, faulted, sheared, and altered.

The bedrock units have been warped into predominantly northwest-trending mountain ridges and intervening valleys formed largely as a result of the North American and Pacific tectonic-plate interaction. Major deformation of the Coast Range occurred between three to ten million years ago as a Plate-Fault triple junction migrated northward past the San Francisco Bay area and as active volcanism was occurring. The Coast Ranges have been modified most recently by a series of base level changes with associated periods of mass wasting (landsliding, erosion, and soil creep) and sediment deposition.

Recent tectonic activity in the northern Coast Range Province is predominantly concentrated along the active San Andreas fault system which consists of a series of sub-parallel faults, including the San Gregorio fault to the west, and the Hayward, Calaveras, Rodgers Creek, and Concord-Green Valley faults to the east. These and other shorter active fault systems within the area consist of predominantly northwest-trending strike slip systems. However, remnants of an active thrust complex borders the Coast Ranges to the east and also contributes to the tectonic deformation of the area.

As a result of tectonic uplift forces and glacial sea level changes, the area has experienced periodic episodes of both erosion and deposition. Within the last 11,000 years the current cycle is predominantly one of deposition, as sea level has risen several hundred feet in response (in part) to glacial changes. Within the Coast Ranges, the upper areas of the valleys are characterized by the accumulation of colluvial deposits. These unconsolidated deposits consist of fragments of rock, sands, and silty to clayey soils which have moved downslope by gravity from the adjacent hill slopes and ridges. The lower parts of the valleys are filled with alluvial deposits of gravels, sands, silts, and clays deposited by streams and rivers. In many areas, the upslope colluvial deposits are marginally stable and have experienced various modes of failure including earth flow, earth slump, and debris flow landslides. Also, partly as a result of tectonic uplift, there are many parts of the Coast Ranges where the upper ridges have failed in massive complex bedrock landslides. These massive landslide complexes may have occurred under slightly different climatic and seismic conditions than exist today. Even though most of these older massive landslide complexes are considered dormant, they contain numerous active subsidiary slope failures and can be reactivated, at least in part, by strong earthquakes and man's activities (such as grading and drainage modification).

The project site is located within the seismically active San Francisco Bay Region, and it is expected that the site will experience ground shaking from future earthquakes. Such earthquakes could occur on any of

the several active faults in the region, and smaller earthquakes (Magnitude 5 to 6) may occur randomly as a result of regional background seismicity. The impacts of regional and local faults and earthquake activity are described further in the *Faulting and Seismicity* subsection below.

SITE GEOLOGY

Mapping of the area by the U.S. Geological Survey (USGS)⁴ indicates that the southern portion of the project site (below approximate elevation 520 feet) consists of Quaternary-aged alluvial fan deposits (designated Qof) comprised primarily of poorly sorted, coarse sand and gravel. The hilly upslope area is mapped as a sequence of Tertiary-aged volcanic rocks (designated Tslt and Tsrs) that include tuff breccia, agglomerate, and rhyolitic flows. A unit of andesitic to basaltic lava flows (Tsa) is shown to pinch out near the western property boundary. Flow bedding contacts in rocks surrounding the site suggest a general trend to strike towards the northwest and to dip 25 to 60 degrees towards the southwest.

Geologic mapping of the area by the California Division of Mines and Geology (CDMG)⁵ is virtually identical to that of the USGS. Exhibit 5.7-2 shows sections of the 1973 USGS geologic map and the 1980 CDMG landslide map that include the site. The general characteristics of the geologic units and features mapped previously within the proposed development area are described below:

Alluvial Fan Deposits Bordering Uplands (map symbol Qof): Quaternary-aged deposits of deeply weathered, poorly sorted coarse sand and gravel; heads of fans incised by channels partly filled by terraced deposits of younger alluvium (Qyf); outer margins of fans overlapped by younger alluvial deposits; also includes deposits on stream terraces in narrow canyons cut into uplands.

Sonoma Volcanics (Tslt): Tertiary-aged (Miocene-Pliocene) volcanic rocks; tuff breccia, intercalated agglomerate tuff. Typically the tuffs and tuff breccia are less resistant and weather easier than the basalt/andesite flow rocks.

Sonoma Volcanics (Tsa): Tertiary-aged (Miocene-Pliocene) volcanic rocks; andesitic to basaltic lava flows.

Sonoma Volcanics (Tsrs): Tertiary-aged (Miocene-Pliocene) volcanic rocks; rhyolitic flow rocks.

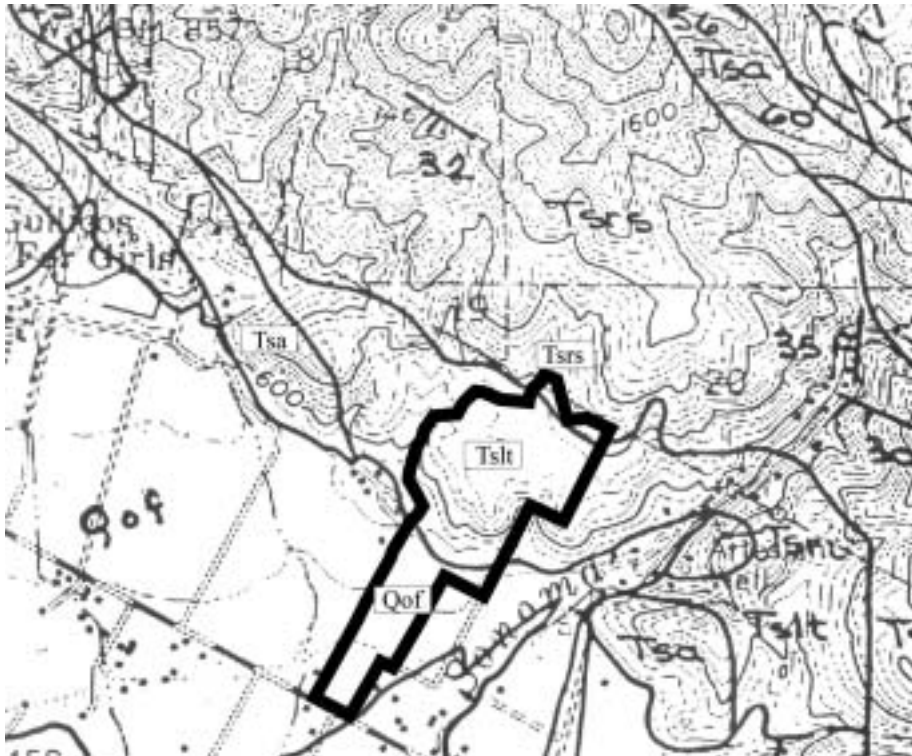
Landslide deposits (unlabeled): These deposits include rotational block slides and slumps and translational debris flows.

⁴ *Preliminary Geologic Map of Eastern Sonoma and Western Napa County, California*, Fox et al., U.S. Geological Survey Map MF 483, 1973.

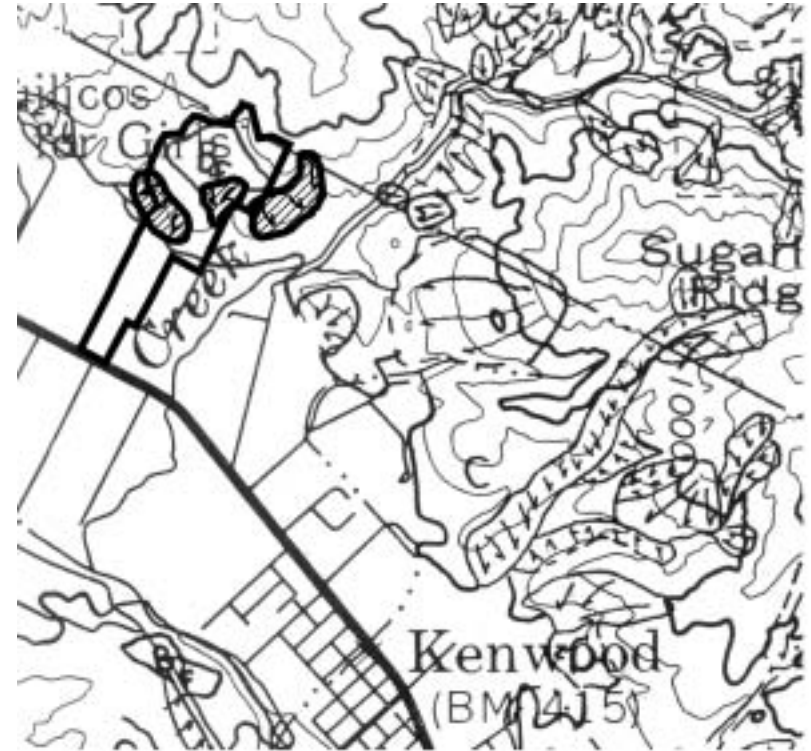
⁵ *Geology For Planning In Sonoma County*, California Division of Mines and Geology (CDMG, Huffman and Armstrong), Special Report 120, Plate 2B (Landslides and Slope Stability) and Plate 3B (Geologic Map), 1980.

**EXHIBIT 5.7-2
SITE GEOLOGIC MAP AND LANDSLIDE MAP**

5.7 - 5

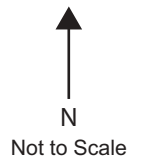


Site Geologic Map



Landslide Map

- Qof – Quaternary-aged Alluvial Fan Deposits
- Tslt – Tertiary-aged Volcanic Rocks
- Tsrs



Sources: Herzog Geotechnical Geology - Modified from Fox et al., 1973
 Landslide - Modified from Huffman & Armstrong, 1980

A groundwater potential investigation for the Graywood Ranch⁶ and Auberge Resorts Property⁷ by E. H. Boudreau indicates that the southern portion of the site (southeast of the proposed winery) is covered by approximately 100+ feet of Quaternary alluvial deposits, which in turn overlie sediments of the Glen Ellen Formation consisting of consolidated sands, gravels and clays. Based on well data in the area (Gemini Well) the Glen Ellen Formation is estimated locally to be approximately 100 feet thick, and overlies Sonoma Volcanic rocks. Boudreau's 1997 mapping depicts the southern flank of the hilly upland area as Sonoma Volcanics (Tsv on the map explanation, Tsvt on the report map).

The geologic map⁸ of the project site indicates that the upland portion of the property is a mix of andesite lava and tuff (Tsv on the map explanation, Tst and Tsa on the report map). The Boudreau mapping depicts the upland portion of the site as bounded by near-vertical faults with a questionable sense of displacement. Lithology contacts between the Tsa and Tst blocks are shown to dip approximately 60 degrees towards the southwest.

Geologic mapping by The Geoservices Group (TGG)⁹ indicates that Quaternary-aged alluvial deposits underlie the southern portion of the site. TGG's mapping divided the lowland alluvial deposits into two components (map symbols Qof and Qtg), consisting of a distal fan of finer-grained gravelly sands and clay, and coarser gravels comprising the headward portion of the fan. The proposed winery location is within the headward fan deposits, and the proposed disposal systems are predominantly within the distal fan deposits. The southern portion of the upland area is mapped as andesite and basalt flows, and the central and northern portions of the uplands area are mapped as rhyolite and dacite tuff.

Subsequent subsurface work by TGG¹⁰ for a preliminary liquefaction evaluation in the proposed winery area encountered variable thicknesses (between 25 and 45 feet) of dense alluvial sands and gravels overlying tuffaceous volcanic bedrock.

Reconnaissance work performed by Herzog Geotechnical (the EIR geologists) indicates that the southern (lowlands) portion of the site consists of a southerly alluvial floodplain deposit and of a northerly alluvial fan, as mapped by TGG. Coarse, unconsolidated gravel, sand, and silt deposits are present within the proposed winery location, which are associated with the channels extending down from the upland area.

⁶ *Geology & Ground Water Potential of the St. Francis Vineyards Property (Graywood Ranch)*, Sonoma Highway, Kenwood, California, Boudreau, E. H., April 30, 1997.

⁷ *Geology & Ground Water Potential of the Auberge Resorts Property*, Kenwood, California, Boudreau, E. H., October 3, 2000.

⁸ *Ibid.*

⁹ *Preliminary Geologic Evaluation, Graywood Ranch Project*, Kenwood, California, The Geoservices Group, September 17, 2000.

¹⁰ *Geologic Studies for EIR, Sonoma Country Inn (Graywood Ranch Property)*, Kenwood, California, The Geoservices Group, June 19, 2002.

Reconnaissance work performed by Herzog Geotechnical also confirmed that the bedrock exposures of the upland area include a variable sequence of volcanic rocks similar to that previously mapped. The southern portion of the upland area (within the vicinity of residential lots 1 through 4) was observed to consist of a sequence of andesitic to rhyolitic flow rocks. The structural orientation of the flow contacts (bedding) of the sequence varied from approximately N45W, 15NE north of residential lot 1, to approximately N15W, 63NE in residential lots 3 and 4. The reason for the steepening of the contacts is unclear and may be related to localized variation in flow structure or possibly to faulting. Recent supplemental subsurface exploration of bedrock conditions north of residential lot 1 and south of the proposed building sites for residential lots 3 and 4 ¹¹ indicates a variable mix of lithologies including massive flow rocks, deeply weathered agglomerates and tuffs, and partially welded volcanoclastic sediments. Structural attitudes of these rocks are highly irregular and do not appear consistent with the bedding (flow) contacts of the rocks in residential lots 3 and 4 and north of residential lot 1.

The geology of the central and northern portion of the upland area appears to be reasonably consistent with the previous mapping, although the andesite/rhyolite flows appear to be interbedded with tuffs and agglomerates to a large extent. Spring sources and apparent groundwater barriers suggest that the structural disposition of the plateau block of the uplands area may be fault controlled.

Soils

The U.S. Department of Agriculture's Soil Conservation Service (SCS) ¹² maps the valley bottom of the project site as Red Hill clay loam and the upland area as consisting primarily of the Goulding clay loam. Both soils are rated as having medium runoff potential, moderate to high erosion hazard, and moderate expansion potential. The upper portion of the site is mapped as Kidd very rocky loam and Forward gravelly loam. The Kidd very rocky loam is rated having rapid to very rapid runoff, high to very high erosion, and low expansion potential. The Forward gravelly loam is rated as having medium to rapid runoff, moderate to high erosion, and low expansion potential.

Slope Stability

Landslide mapping by the USGS ¹³ of the Kenwood quadrangle does not depict any landslides within, or immediately adjacent to the project site. Landslide mapping by CDMG ¹⁴ depicts two large landslides on the flanks of the southern ridge nose of the upland area, and a third slide adjacent to the eastern boundary of the site (see Exhibit 5.7-2).

¹¹ *Ibid.*

¹² *Soil Survey of Sonoma County*, United States Department of Agriculture (USDA), 1972.

¹³ Reconnaissance Photointerpretation Map of Landslides in 24 Selected 7½ Minute Quadrangles in Lake, Napa, Solano and Sonoma Counties, California, Dwyer et al., U.S. Geological Survey Open File Map Sheet, Kenwood Quadrangle, 1976.

¹⁴ *Geology For Planning In Sonoma County*, California Division of Mines and Geology (CDMG, Huffman and Armstrong), Special Report 120, Plate 2B (Landslides and Slope Stability) and Plate 3B (Geologic Map), 1980.

The geologic map presented by Boudreau in the groundwater evaluation¹⁵ depicts the easternmost slide (as mapped by CDMG in 1980), but does not depict the central and western slides.

The *Preliminary Geologic Evaluation* prepared by TGG¹⁶ discusses the three landslides mapped in 1980 by CDMG. The benched topography within the area of the westernmost slide (designated by TGG as Landslide 1) was interpreted as possibly being related to differential erosion. Although TGG considered that this landslide was most likely not present, the feature was depicted on their geologic map (Plate 2 of the TG report) until verified by subsurface exploration.

Landslide area 2 (the central slide) was field checked by TGG. TGG concluded that there were no features suggestive of landsliding within this area, and that the area appeared to be underlain by rhyolite tuff bedrock.

Landslide area 3 (the easternmost slide) was also field checked by TGG. TGG concluded that topographic conditions suggestive of sliding might be present on the adjacent (eastern) property, but that the slide does not extend into the project site.

A subsequent letter by TGG¹⁷ provided a review of the suitability of cottage locations incorporated into the current development plan. That work concluded that no evidence of landslides was found within the building locations. Additionally, preliminary conclusions were provided concerning the stability and erosion potential of the planned access roadway along the western margin of the site.

An additional letter by TGG¹⁸ provides a geologic review of the building envelopes for residential lots 2, 3, 4, 8, and 9. That letter stipulates that volcanic rock was observed within the building envelopes for residential lots 3, 4, 8, and 9, and that the building envelope for residential lot 2 is on a topographic bench east of the landslide zone shown on the published mapping by CDMG. A table within the TGG letter provides estimated distances from the various building envelopes to the mapped landslide features. The report concludes that these five building envelopes lie within areas underlain at the surface or at shallow depth by volcanic bedrock, that topographic features related to possible older landslide zones are situated well away from the proposed building envelopes, and that should possible landslide areas be confirmed by subsequent investigations, they would not pose an impact to the proposed building envelopes.

The review work for this EIR indicates that the building envelope for residential lot 2, a portion of the building envelope of residential lot 1, and the leachfields for residential lots 2, 3, and 4 are within the mapped boundary of the westernmost slide (see Exhibit 5.7-3). The central of the three slides mapped by CDMG (1980) is northeast of residential lot 1, southwest of residential lot 8 and south of the

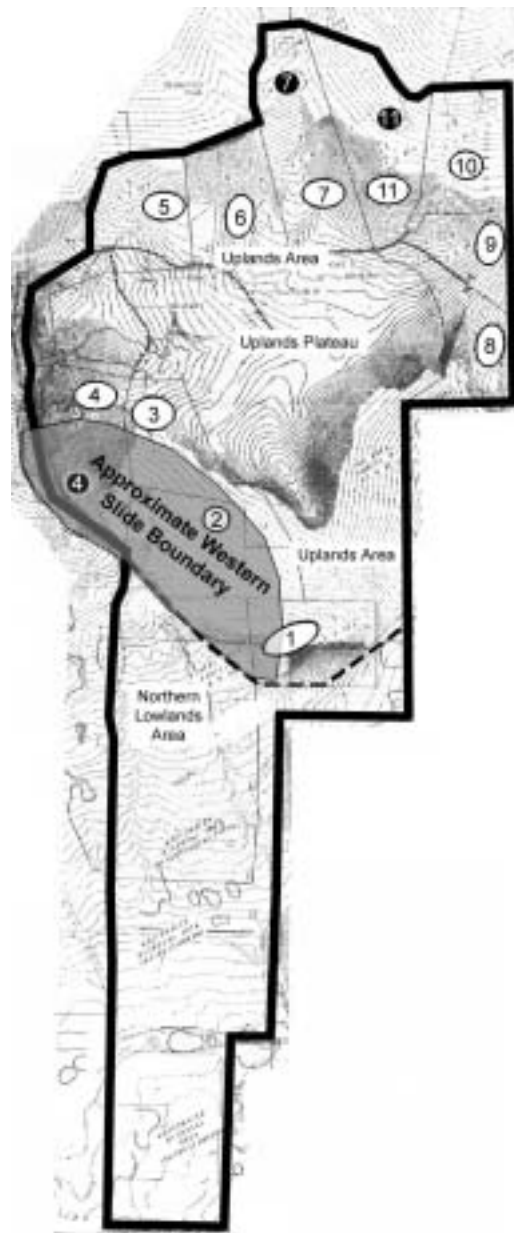
¹⁵ *Geology & Ground Water Potential of the Auberge Resorts Property, op. cit.*




¹⁶ *Preliminary Geologic Evaluation, Graywood Ranch Project, op. cit.*

¹⁷ *Geologic Review: Proposed Inn and Access Road, Sonoma Country Inn, Graywood Ranch Property, Kenwood, California, The Geoservices Group, September 24, 2001.*

¹⁸ *Geologic Review: Building Envelopes for Lots 2, 3, 4, 8, and 9, Graywood Ranch Property, Kenwood, California, The Geoservices Group, January 24, 2002.*

**EXHIBIT 5.7-3
APPROXIMATE LOCATION OF WESTERN LANDSLIDE**



-  Proposed Building Envelopes
-  Alternate Building Envelopes
-  Approximate western slide boundary by Huffman & Armstrong (1980)

N
Not To Scale

Source: Herzog Geotechnical & Project Applicant

proposed inn/spa/restaurant area. The upper portion of this slide is mapped around elevation 720 feet and extends down to approximately elevation 600 feet.

The third slide mapped by CDMG (1980) is adjacent to the eastern property boundary, and is mapped as extending slightly into the Graywood Ranch property but not extending into the building area of residential lot 8.

Topographic features noted during Herzog Geotechnical's reconnaissance of the site indicate a pronounced break in slope downslope of the proposed building locations for residential lots 3 and 4. The building envelopes themselves appear to be underlain by strong, in-place volcanic flow rock and appear to be stable. Lobate topography was noted within and downslope of the building envelope for residential lot 2, and this terrain extended into the extreme northwest corner of the building envelope of residential lot 1. The pronounced slope break and lobate conditions appear to correlate with the western-most mapped landslide feature and suggests that the building locations for residential lots 1 and 2 and the leachfields for residential lots 2, 3, and 4 may be within a large, dormant landslide complex.

Subsequent subsurface exploration within the western slide area was performed by TGG in May 2002, and a portion of the field exploration work was observed by Herzog Geotechnical. Test pit excavations indicate highly variable bedrock conditions within and downslope of the building envelope for residential lot 2. Bedrock lithologies and structural orientations of the rock are inconsistent with the in-place exposures of rock outcrops within the upper portions of residential lots 3 and 4 and in the location of the proposed cottages to the east-southeast. The test pit exploration also indicates that relatively strong, partially welded volcanoclastic sedimentary rock is present at shallow depths (approximately three to four feet) southwest of residential lot 4. As such, the area of landslide deposits for the western portion of the western slide does not appear to be as extensive as previously mapped. However, highly irregular lithologic conditions in the vicinity of residential lot 2 suggest that possible old deep-seated sliding may be present in the area south of the building envelope for residential lot 3 and north-northwest of residential lot 1.

Upon completion of the test pit exploration, there was still insufficient data to confirm whether volcanic units near the base of the slope in residential lots 1 and 2 were in-place. As such, two exploratory borings were included in TGG's supplemental exploration plan. The results of TGG's supplemental test pits and borings were summarized in their letter report dated June 19, 2002.¹⁹ Boring 1 was located near the northwest portion of the building envelope for residential lot 1, and approximately 100 feet east of Test Pit 6. Boring 2 was drilled within the southeast portion of residential lot 2, approximately 70 feet northeast (upslope) from Boring 1. Data from the test pit exploration and drilling indicates that a pumicitic tuff overlies a lithic tuff unit in the area, and that this structural contact dips variably towards the southwest. Within the southwest portion of residential lot 4, the lithic tuff is very strong and does not appear to be part of a landslide deposit. Based on their exploration, TGG concluded that the units were not obviously disrupted by landslide movement, and that the geomorphic features mapped by CDMG are instead the result of varying resistance in erosion and not to a large dormant bedrock landslide.

Herzog Geotechnical's review of the boring logs indicates that there does not appear to be a reasonable correlation between the lithologic and structural relationships of materials in Boring 1 and

¹⁹ *Geologic Studies for EIR, Sonoma Country Inn (Graywood Ranch Property), op. cit.*

Boring 2. Similarly, there does not appear to be a reasonable correlation between the materials observed in Test Pit 6 and Boring 1. The lithic tuff unit encountered in the southwest portion of residential lot 4 (including the area designated as the alternative building envelope) and reportedly at depth in Borings 1 and 2, appears reasonably competent and does not appear to comprise landslide material. However, bedrock conditions within residential lot 2 were considered to be inconsistent with surrounding materials that are considered to be "in-place" and relatively stable. As a result, the relative stability within residential lot 2 was still considered questionable, and additional subsurface exploration was performed on December 4 and 5, 2002 by TGG. Five additional trenches were excavated within the southern portion of residential lot 3 and the central portion of residential lot 2. The results of TGG's investigation are summarized in their Supplemental Investigation report.²⁰ The additional trench locations are shown on Plate 2 of their report.

Based on the conditions observed, and verified in the field by the EIR geologists, TGG noted that trenches excavated across the suspected scarp (slope break) in residential lot 2 exposed a continuous stratigraphic section that did not display apparent down-dropping, disruption or evidence of tensional pull-apart features (i.e. open soil-filled fissures or loose, weak caving rock materials). Bedrock units appeared compact, in-place and oriented relatively consistently with the localized rock structure. TGG concluded that the topographic feature attributed to landsliding by the CDMG mapping is due to differential erosion of in-place volcanic strata, and that development of residential lot 2 is geologically feasible. Although there appears to be localized variation in the structure of the volcanics, the EIR review of subsurface conditions exposed during the December 2002 supplemental work did not observe features indicative of deep-seated bedrock sliding. As such, the conclusions and interpretations developed by TGG with respect to the development feasibility of residential lot 2 are considered to be reasonable and consistent with the conditions encountered.

Active Faulting

The preliminary geotechnical work by TGG²¹ reports that the closest active fault to the site is the Rodgers Creek fault located approximately ten kilometers to the west. In 1997, CDMG updated their fault maps of the region and identified faults with recent activity. Active faults are defined as faults exhibiting evidence of Holocene age fault displacement. Active faults in the region are shown on Exhibit 5.7-4.

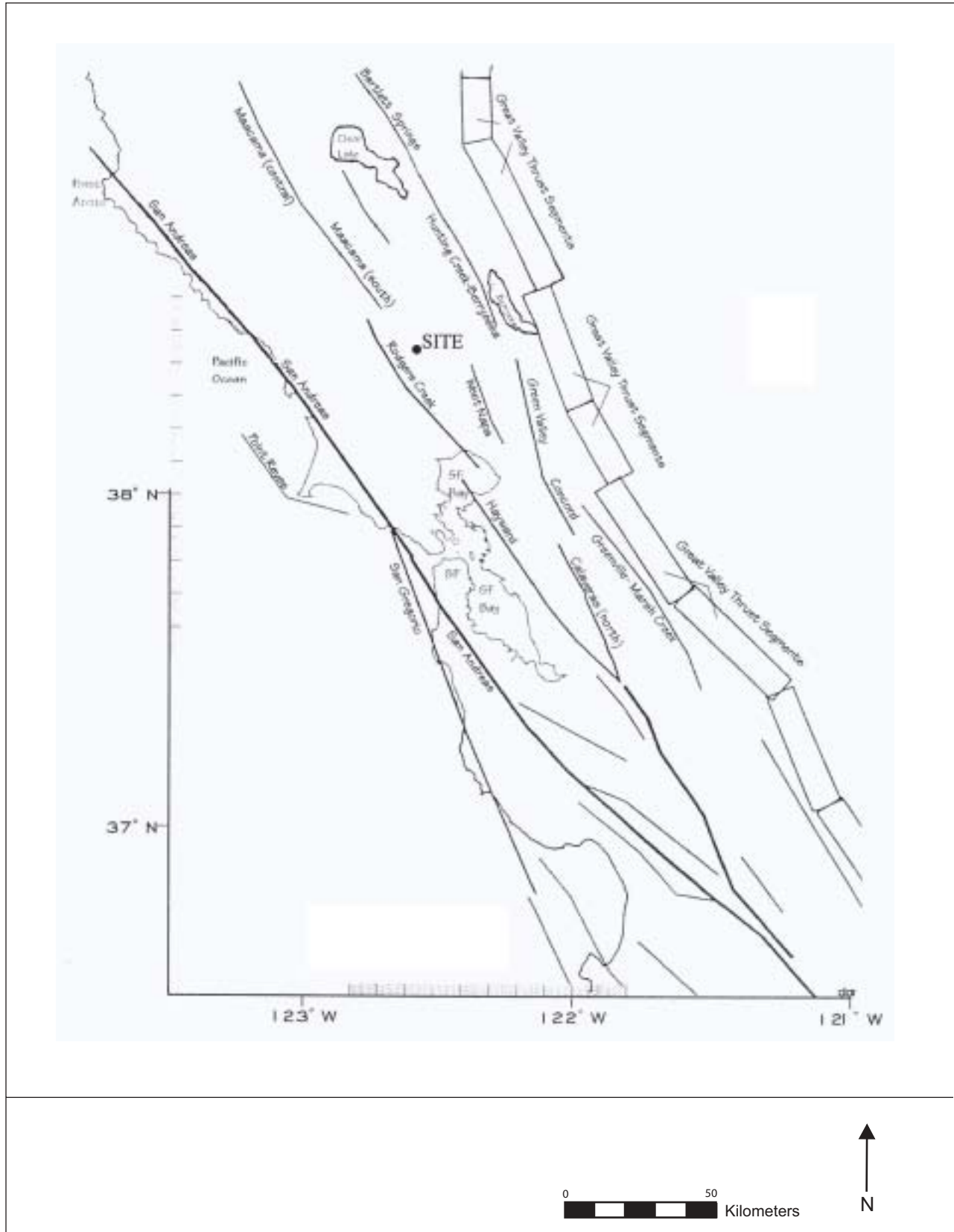
In accordance with state law, the CDMG has prepared a series of maps delineating zones along known active faults. These zones, termed "Alquist-Priolo Earthquake Fault Zones", define the zones within which special fault studies must be undertaken before development. The project site is not within a current Alquist Priolo Earthquake Fault Zone, and previous mapping and geotechnical work does not depict an active fault trace through the site. The faults that have been postulated as bounding the upland plateau block by Boudreau,²² if present, would represent pre-Holocene structural

²⁰ *Supplemental Investigation, Geologic Studies for EIR, Sonoma Country Inn (Graywood Ranch Property), Kenwood, California, The Geoservices Group, December 9, 2002.*

²¹ *Preliminary Geologic Evaluation, Graywood Ranch Project, op. cit.*

²² *Geology & Ground Water Potential of the Auberge Resorts Property, Kenwood, California, op. cit.*

**EXHIBIT 5.7-4
REGIONAL FAULT MAP**



Source: Herzog Geotechnical - Modified from Figures 3a and 3b, CDMG Open File Report 96-08

displacement and are not considered capable of generating earthquakes. During the site reconnaissance by Herzog Geotechnical geomorphic conditions within the property that would suggest the presence of an active fault trace were not observed.

SEISMICITY AND SEISMIC SHAKING

The project site is within the Coast Range Province which is considered seismically active, and several active fault zones exist within 25 miles of the property. Exhibit 5.7-5 presents a list of those faults that contribute the most significant ground-motion hazard to the site. Included in the exhibit is the shortest distance between the site and each fault (as measured in miles and kilometers from the surface trace projection of the fault), the maximum moment magnitude (M_w) for the Upper Bound Earthquake (UBE) estimated for each fault, and a range for the peak ground acceleration estimated for an assumed UBE occurring at the closest distance between the site and the fault. UBE moment magnitudes are based on data presented by Petersen et al.²³ Ground accelerations at the site will depend on the earthquake magnitude, distance from the epicenter to the site, directivity and topographic effects, and the substrate conditions at a specific location (i.e. upland rock sites or lowland soil sites). For this evaluation the attenuation curves of Campbell and Bozorgnia²⁴ for soft rock materials were used to provide an approximate site average for the entire area. Comparative results using the attenuation curves of Sadigh²⁵ for a rock site and Boore, et al.²⁶ for a soil site indicate that accelerations within the lowland (soil) areas may be approximately 0.04g higher than accelerations within the upland (rock) areas. The attenuation relationships consider site (soil/rock) conditions and the predominant type of fault movement (strike slip or reverse). The estimated ground accelerations indicate that the site would experience moderate to strong shaking in the event of rupture of the Rodgers Creek fault or other nearby faults.

Peak ground accelerations calculated by TGG using attenuation curves of Campbell²⁷ for an Upper Bounds Magnitude Earthquake on the Rodgers Creek fault are reported as 0.30g. A probabilistic ground motion with a ten percent probability of exceedance in 50 years was reported by TGG as 0.52g. This value was reportedly derived from the U.S. Geological Survey's National Earthquake

²³ *Probabilistic Seismic Hazard Assessment For The State of California*, California Division of Mines and Geology (CDMG, Petersen et al.), DMG Open File Report 96-08, USGS Open File Report 96-706, 1996.

²⁴ *Near Source Attenuation of Peak Horizontal Accelerations from Worldwide Accelerograms Recorded from 1957 to 1993*, Campbell, K.W. and Y. Bozorgnia, Proceeding of the Fifth U.S. National Conference on Earthquake Engineering, July 10-14, 1994, Earthquake Engineering Research Institute, vol. 3, 1994.

²⁵ *A Review of Attenuation Relationships For Rock Site Conditions From Shallow Crustal Earthquakes in an Interplate Environment*, Sadigh, K.R., International Workshop on Strong Ground Motion, Menlo Park, California, December 1993.

²⁶ *Estimation of Response Spectra and Peak Accelerations From Western North American Earthquakes: An Interim Report*, Boore, D.M., W.B. Joyner, and T.E. Fumal, U.S. Geological Survey, Open File Report 93-509, 1993.

²⁷ *Near Source Attenuation of Peak Horizontal Accelerations from Worldwide Accelerograms Recorded from 1957 to 1993*, Campbell, K.W. and Y. Bozorgnia, Proceeding of the Fifth U.S. National Conference on Earthquake Engineering, July 10-14, 1994, Earthquake Engineering Research Institute, vol. 3, 1994.

Information Center.²⁸ Modeling of the Probabilistic Seismic Hazard Analysis prepared by the CDMG²⁹ indicates that the site is within an area where there is a ten percent chance of exceedance within 50 years of a peak ground acceleration of approximately 0.45g for a firm rock site.³⁰

EXHIBIT 5.7-5
FAULT DISTANCE – MAGNITUDE -- ACCELERATION

Fault System	Fault to Site Distance		Upper Bounds Magnitude (Mw)^a	Bedrock Acceleration (g) M (M+1)^b
	Miles	Kilometers		
Rodgers Creek	5.2	8.4	7.0	0.45 (0.66)
West Napa (unzoned)	10.6	17.1	6.5	0.19 (0.29)
Maacama (south)	12.3	19.8	6.9	0.21 (0.31)
Hunting Creek-Berryessa	18.0	29.0	6.9	0.14 (0.20)
Concord-Green Valley	20.2	32.5	6.9	0.12 (0.17)
San Andreas (Northern)	25.7	41.4	7.9	0.18 (0.27)

a Estimated Moment Magnitude from CDMG (1996) Open File Report 96-08.

b Peak ground acceleration (M = mean; M+1 = mean+1 standard deviation), random horizontal component from Campbell and Bozorgnia (1994, soft rock).

Although the physical characteristics of the geologic materials underlying the site have a major influence in determining the frequency of vibrations, other factors (such as local topographic conditions and the orientation of the site with respect to the earthquake source) can have a major influence on the amplitude of vibrations and, thus, intensity of the shaking and the impacts to buildings. Properly engineered structures which comply with Uniform Building Code requirements are likely to survive the effects of shaking alone in any of these zones. It is the secondary effects of the shaking (such as landsliding and differential settlements of the ground) which are likely to be the principal causes of severe earthquake damage to such structures. Each structure can behave differently, depending on its design and its resonant frequency relative to the earthquake frequency. Specific subsurface soil, water saturation, and bedrock conditions will need to be addressed in designing the types of building proposed such that the natural vibration period of the buildings will be

²⁸ The USGS web site reports that the probabilistic ground motions are tied to default latitude and longitude coordinates with a 0.1 degree grid system.

²⁹ *Probabilistic Seismic Hazard Assessment Grid Point Values, 10% probability of exceedance in 50 years*, California Division of Mines and Geology (CDMG), unpublished; available through USGS website, 1997.

³⁰ The USGS grid spacing results in a default location that is closer to the Rodgers Creek fault than the actual site coordinates for the winery location (latitude 38.433, longitude -122.56).

compatible with the site and that foundation design can mitigate the anticipated types of ground failures resulting from large earthquakes.

Liquefaction

Liquefaction is a sudden loss of shear strength experienced in saturated granular soils below the groundwater level during strong earthquake ground shaking. The occurrence of this phenomenon is dependent on many factors, including the intensity and duration of ground shaking, soil density and particle size distribution, and position of the groundwater table.³¹ Previous regional mapping by the Association of Bay Area Governments (ABAG)³² indicates that liquefaction potential in the site vicinity is low.

Supplemental test borings were performed by TGG on June 11, 2002 to evaluate the potential for liquefaction of alluvial deposits located within the proposed winery area. Analyses of the test borings in the proposed winery area indicate that the soils encountered in the borings were either adequately dense or contained enough fines to preclude liquefaction during anticipated earthquake shaking. The southern lowlands area south of the winery site also contains alluvial sediments which may be subject to liquefaction. These areas have not yet been explored or evaluated.

Densification

Densification can occur in low density, uniformly-graded sandy soils above the groundwater table. The soils encountered in the test borings and test pits during TGG's preliminary studies were generally adequately dense or contain a high enough percentage of fine grained materials (silt and clay) to not be susceptible to densification during strong ground shaking. The southern lowlands area south of the winery site also contains alluvial sediments which may be subject to densification. These areas have not yet been explored or evaluated because no structures are proposed in these areas..

Seismic Slope Stability

Strong seismic shaking may trigger slope failures, either in the form of new slides or reactivation of existing slide deposits, especially if the ground is saturated. Other events, including changes in saturation due to climatic variations, irrigation or grading activities, could also trigger reactivation or exacerbate the effects of seismic activity. Since development is not proposed on, or immediately downslope of any known slide areas, the potential effects of seismically induced slope failure are considered to be low.

GROUNDWATER

As with most sites in the San Francisco Bay Area, groundwater conditions vary seasonally and also as a result of longer-term weather cycles. Information presented by Boudreau for the groundwater evaluation study indicates that seasonal groundwater levels within the extreme southern (lowland)

³¹ *Ground Motion and Soil Liquefaction During Earthquakes*, Seed, H. B. and Idriss, E., Earthquake Engineering Research Institute Monograph, 1982.

³² *Liquefaction Susceptibility: San Francisco Bay Region*, ABAG, Scale: 1:250,000, March 1980.

portion of the site typically may be two to six feet and/or locally ponded at the surface. Water levels within the proposed winery location (northern lowland area) were reported to be typically from eight to ten feet below ground level. Information from the supplemental liquefaction evaluation performed by TGG at the winery location indicates groundwater at an elevation of 8 feet below ground level.

Seasonal groundwater levels within the upland area are expected to be highly variable. Localized springs are present within the vicinity of residential lots 5 and 6. Shallow seepage and saturated soil/rock conditions were also observed during the supplemental test pit exploration downslope of the building envelope of residential lot 2. Zones of seepage and/or springs may be encountered during grading, especially where deep cuts are planned.

OTHER GEOLOGIC FACTORS

Previous work has not indicated the presence of significant or unusual geologic features at the site that would be destroyed or disrupted as a result of the planned development. Likewise there are no reported mineral deposits of economic significance within the project site. Fossils have not been documented from the area and there are no mapped significant paleontological deposits. There are no significant geologic risks associated with volcanism or tsunami activity.

Geology/Soils – Significance Criteria

The geology/soils analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant geology/soils impact if it would:

- x Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - à Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.
 - à Strong seismic ground shaking.
 - à Seismic-related ground failure, including liquefaction.
 - à Landslides.
- x Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- x Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Geology/Soils – Impacts and Mitigation

Impact 5.7-1 Impacts from Fault Rupture

The project would not be located on active faults. This would be a less-than-significant impact.

The site is not located in an Alquist-Priolo Earthquake Fault Zone, and there is no evidence of an active fault trace extending through the site. Therefore, the risk of loss, injury, or death as a result of fault rupture on the site is low.

Mitigation Measure 5.7-1 No mitigation would be required.

Impact 5.7-2 Earthquake Induced Ground Shaking

Strong seismic shaking is expected to occur at the site some time during the design life of the proposed development which could damage structures. This would be a significant impact.

The project site is located in the seismically active Bay Area, and will likely experience strong ground shaking during the design life due to the proximity of the nearby Rodgers Creek fault, as well as the San Andreas, Hayward, Maacama, Green Valley, and other active faults. Upper Bound Magnitude Earthquakes along these faults would cause moderate to strong ground shaking. The intensity of the resultant ground motion would depend on the characteristics of the generating fault, the distance to the earthquake epicenter, the earthquake magnitude and duration, site-specific soil conditions, and the response of structures to the seismic forces.

Strong ground shaking can cause direct effects to fills, building foundations, and structures. Investigations conducted to date have included some exploratory borings to determine preliminary soil characteristics and groundwater depths in the winery area and near the base of the slope in the area of previously mapped slide deposits. Soil samples have been collected from the borings for visual characterization and laboratory testing related to an evaluation of liquefaction potential. Design-level soils engineering studies have not been conducted for any of the planned development areas. Sufficient data have been collected and analyzed in the area relative to assessing the general level of potential ground shaking for master planning purposes, but not for specific project design purposes.

Mitigation Measure 5.7-2 Prior to grading, building, or septic permit issuance a site- and project-specific design level geotechnical engineering investigation shall be prepared to develop seismic design criteria for proposed structures at the site. These reports shall include a characterization of the soil/rock conditions and appropriate seismic design coefficients and near-field factors in accordance with current Uniform Building Code. The project applicant shall incorporate the recommendations developed in the site-specific geotechnical reports prepared for each development area. Said recommendations shall be implemented and constructed as part of the development of the site.

Ground motions and Uniform Building Code site coefficients shall be determined by a separate analysis as part of design-level geotechnical investigations for the specific buildings and other proposed structures.

Significance After Mitigation Implementation of Mitigation Measure 5.7-2 would reduce project impacts to a less-than-significant level.

Responsibility and Monitoring Prior to grading, building, or septic permit issuance the applicant shall submit the reports to the County Permit and Resource Management Department. As a part of

permit applications for individual residential lots, the applicant shall submit the necessary report to the County Permit and Resource Management Department. County staff would be responsible to ensure that the recommendations have been incorporated into the structural design of project improvements.

Impact 5.7-3 Liquefaction

Liquefiable soils have not been encountered at the project site. However, liquefiable deposits may still be present in the alluvial soils underlying the proposed leachfield disposal systems for the winery and inn/spa/restaurant. This would be a significant impact.

Liquefaction is a sudden loss of shear strength experienced in saturated granular soils below the groundwater level during strong earthquake ground shaking. Although liquefiable materials are sometimes prevalent within alluvial deposits, the alluvial soils encountered in the area of the winery were noted to be adequately dense or to contain adequate fine grained material to preclude liquefaction. Geotechnical investigations and laboratory testing specific to the development of the leachfield disposal systems in the southern lowlands area of the site would be needed to determine if alluvial soils in this area are potentially liquefiable.

Mitigation Measure 5.7-3 Future design-level geotechnical investigation for proposed leachfield disposal systems or other improvements south of the winery area shall address the presence or absence of liquefiable soils. Such evaluations shall be performed in accordance with California Division of Mines and Geology³³ guidelines. In areas where liquefaction induced ground deformations are determined to pose a risk to proposed leachfield systems or other improvements, ground improvement measures (such as chemical grouting, deep dynamic compaction or vibro-replacement) should be implemented as determined by the geotechnical investigations.

Significance After Mitigation Implementation of Mitigation 5.7-3 would reduce project impacts to a less-than-significant level.

Responsibility and Monitoring Prior to building, grading, or septic permit issuance the applicant shall submit the design-level geotechnical report as outlined in Mitigation Measure 5.7-3. County staff would be responsible to ensure that the recommendations have been incorporated into the design of project improvements.

Impact 5.7-4 Seismic Ground Settlements

Ground settlements (densification) can occur when soils with low density or high void ratios compact upon shaking. Ground settlements are considered most likely to occur in the lowland alluvial fan areas during seismic shaking. This would be a significant impact.

Seismic ground settlement (densification) can occur in low density, uniformly-graded sandy soils above the groundwater table. The soils encountered in the TGG test borings and test pits as part of their preliminary studies were adequately dense or contain a high enough percentage of fine grained materials (silt and clay) to not be susceptible to significant densification during strong ground shaking. However, design-level studies may encounter areas which are subject to seismic densification.

³³ *Guidelines for Evaluating and Mitigating Seismic Hazards*, California Division of Mines and Geology, State Mining and Geology Board, 1997.

Mitigation Measure 5.7-4 If structures or septic systems are proposed in the lowland alluvial fan area, the following measures would be required to mitigate ground settlement impacts:

- (1) Identify site soil conditions through exploratory borings to determine general soils profile and characteristics.
- (2) Rework and compact soils where such soils are identified in the near surface.
- (3) Use drilled pier or driven pile foundations which carry the loads from structures through the loose densifiable layers and into competent strata. Alternative foundation designs (such as reinforced mats) also may be considered.

Significance After Mitigation Implementation of Mitigation Measure 5.7-4 would reduce project impacts to a less-than-significant level.

Responsibility and Monitoring Prior to building, grading, or septic permit issuance the applicant shall submit the design-level geotechnical report as outlined in Mitigation Measure 5.7-4. County staff would be responsible to ensure that the recommendations have been incorporated into the structural design of project improvements.

Impact 5.7-5 Lurching and Ground Cracking

Lurching and ground cracking can occur at the edges of slopes or steep stream banks during strong ground shaking. This would be a significant impact.

Ground cracking due to seismic lurching generally occurs parallel or sub-parallel to the edge of slopes (where firm soils are underlain by soft deposits) or along steep stream channel banks. The subsurface exploration of the alluvial fan area where the winery is planned indicates that soils become increasingly dense with depth, and these materials are judged not to be susceptible to lurching or ground cracking.

Mitigation Measure 5.7-5 If structures or septic systems are proposed near steep banks, future building-specific geotechnical investigation for development in the lowland area shall determine the presence or absence of fills and/or natural slopes/banks with a potential for seismically-induced ground cracking and failure by lurching. If found to exist, special foundation design or re-working of the soils or other appropriate design, as determined by the area and site-specific investigations, shall be employed to mitigate this impact.

Significance After Mitigation Implementation of Mitigation Measure 5.7-5 would reduce project impacts to a less-than-significant level.

Responsibility and Monitoring Prior to building, grading, or septic permit issuance the applicant shall submit the design-level geotechnical report as outlined in Mitigation Measure 5.7-5. County staff would be responsible to ensure that the recommendations have been incorporated into the structural design of project improvements.

Impact 5.7-6 Lateral Spreading

Lateral spreading refers to lateral deformations of banks or sloping areas as a result of seismic liquefaction. Liquefiable soils have not been encountered at the site. However, liquefiable deposits may still be encountered in alluvial deposits beneath the leachfield disposal systems for the winery and inn/spa/restaurant. This would be a significant impact.

Liquefiable soils do not appear to be present in test pits in upslope areas or in test borings in the winery area, and the potential for lateral spreading is considered low at these locations. However, the potential effects of lateral spreading need to be addressed for the proposed leachfield systems located within the alluvial southern lowlands area.

Mitigation Measure 5.7-6 Future design-level geotechnical investigation for proposed leachfield disposal systems or other improvements south of the winery area shall address the potential for lateral spreading. In areas where lateral spreading deformations are determined to pose a risk to proposed leachfield systems or other improvements, ground improvement measures (such as chemical grouting, deep dynamic compaction or vibro-replacement) should be implemented as determined by the geotechnical investigations.

Significance After Mitigation Implementation of Mitigation Measure 5.7-6 would reduce project impacts to a less-than-significant level.

Responsibility and Monitoring Building permit approval shall be conditioned on preparation of a design-level geotechnical report as outlined in Mitigation Measure 5.7-6.

Impact 5.7-7 Landsliding and Slope Instability

Previous geologic work at the site indicates that there is not a significant risk with respect to the presence of landslides within the proposed building envelopes. Remaining slope stability risks to the development of residential/commercial structures would be associated with instability that may be generated during grading of the building pads and other improvements. This would be a significant impact.

The previously mapped landslide along the southern flank of the upland plateau block of the uplands area has been investigated by the applicant's Geotechnical Consultant and the work reviewed by the EIR geologist. Based on the conditions encountered and previous work at the site, there does not appear to be a significant risk with respect to the presence of landslides within the proposed building envelopes.

Grading of the existing terrain will be required to develop roads, parking lots, building pads, and to provide slopes for surface drainage. Grading would be required to develop on-site roads (including individual driveways), parking lots, building pads for the inn/spa/restaurant, the winery, the 11 residential buildings, and for on-site drainage. Grading for the alternative tank site (on residential lot 7) and for some of the individual residential lots may extend into existing drainages containing relatively weak soil deposits. Cut slopes for improvements may expose weak and weathered materials and/or unstable contacts within the volcanic bedrock which may be subject to instability.

Mitigation Measure 5.7-7 The following mitigation measures would be required to mitigate significant impacts related to landsliding and slope instability:

Mitigation Measure 5.7-7(a) Design-level site-specific geotechnical engineering investigation and analysis is required within proposed development improvements. Site specific investigations should evaluate the potential for slope instability, especially where unstable contacts within the volcanic rock may be exposed as a result of grading.

Mitigation Measure 5.7-7(b) Grading and excavation activities shall comply at a minimum with the Uniform Building Code, County of Sonoma standards, and site-specific design criteria established in the geotechnical reports. The geotechnical reports shall consider the following measures:

- (1) All fills constructed on slopes steeper than 5:1 (horizontal to vertical), or any fills with a height greater than three feet above original ground level shall be keyed and benched into competent material and provided with subdrainage. Unreinforced permanent fill slopes shall be no steeper than 2:1 and, where slope heights exceed 15 feet the fills shall be provided with benches and surface drainage controls. All fills shall be engineered and compacted to at least 90 percent relative compaction (as determined by ASTM D 1557), unless recommended otherwise by the applicant's Geotechnical Engineer.
- (2) Slopes on the project site shall be improved with erosion protection and planted with vegetation. Planted vegetation shall include native drought-tolerant and fire-resistant species. Catchment basins shall be constructed at strategic locations where needed to minimize the potential for off-site sedimentation from existing and/or potential on-site sources.

Mitigation Measure 5.7-7(c) Use proper construction, inspection, and maintenance practices to protect against creation of unstable slopes.

A plan for the periodic inspection and maintenance of slope stability improvements, subdrains, and surface drains, including removal and disposal of material deposited in catchment basins, shall be prepared and submitted to the County for review and approval by the County Permit and Resource Management Department Drainage Review prior to occupancy. This plan shall include inspection and disposal procedures, schedule and reporting requirements, and the responsible party. This plan can be part of the overall long-term project maintenance plan.

Significance After Mitigation Implementation of Mitigation Measures 5.7-7(a) through 5.7-7(c) would reduce project impacts to a less-than-significant level.

Responsibility and Monitoring The reports outlined in Mitigation Measures 5.7-7(a) and (b) shall be submitted to the County prior to filing of the final subdivision map. As part of building permit applications for individual residential lots, the applicant shall submit reports outlined in Mitigation Measures 5.7-(a) and (b) to the County of Sonoma Permit and Resource Management Department. The applicant shall submit plans outlined in Mitigation Measure 5.7-7(c) to the County of Sonoma Permit and Resource Management Department Drainage Review. County staff would be responsible to ensure that the recommendations presented in the soils reports have been incorporated into the grading plans.

Impact 5.7-8 Creek Bank Stability

Bank erosion along Graywood Creek (including upslope off-site sources) could result in localized instability of the stream banks. Bank failures may also occur as a result of seismic shaking. Such instability could impact the roadway and could result in flooding and/or debris flow activity which could impact the downslope areas. This would be a significant impact.

There is evidence of erosion along Graywood Creek (including upslope off-site sources) which could produce localized instability of the stream banks. Bank instability may also occur as a result earthquake shaking. This could impact the roadway and/or cause temporary blockage of the stream, resulting in downstream flooding or debris deposition. The breaching of a debris dam may produce a debris pulse that is capable of flooding or inundating developed downslope areas that are adjacent to (or cross) the existing drainage channel.

Preliminary site investigations by the project applicant have not addressed potential creek bank failure and corresponding creek blockage or the effects of these impacts on the northern portion of the lowlands area where alluvial fan deposits are present and are still accumulating. Design level geotechnical investigations should address these potential impacts for the winery area and for areas where the access road would cross the stream channel.

Mitigation Measure 5.7-8 Road design adjacent to Graywood Creek shall be based on design level geotechnical evaluation. Creek bank stability measures shall be incorporated into road design. Designs may include but shall not be limited to drainage improvements, stream bank stabilization or road setbacks. All grading at the site shall be subject to the requirements of Mitigation Measure 5.7-7 regarding slope stability. These features shall be designed to stabilize upslope areas prone to erosion or earth movement which could block drainages and result in sudden breaches and downslope erosion and flooding. The project applicant shall incorporate the recommendations developed in the site specific geotechnical reports prepared for each development area. Said recommendations shall be implemented and constructed as part of the development of the area.

Stabilization measures within creeks shall conform to requirements of the County of Sonoma, California Department of Fish and Game, and other applicable agencies, and shall be submitted for approval by these agencies.

Significance After Mitigation Implementation of Mitigation Measure 5.7-8 would reduce project impacts to a less-than-significant level.

Responsibility and Monitoring Prior to building, grading, or septic permit issuance the applicant shall submit the design-level geotechnical report as outlined in Mitigation Measure 5.7-8. County staff would be responsible to ensure that the recommendations have been incorporated into the structural design of project improvements.

Impact 5.7-9 Expansive Soils

Expansive soils may be identified during site-specific work which could result in damage to foundations, slabs, or pavements. This would be a significant impact.

Preliminary site investigations by the project applicant's consultant did not encounter expansive soils.

The U.S. Department of Agriculture's Soil Conservation Service (SCS) ³⁴ maps indicate the presence of soils with low to moderate expansion potential at the site. Areas of expansive soils may be identified during future site-specific geotechnical investigations which could damage foundations, pavements, or other structures or improvements.

Mitigation Measure 5.7-9 Prior to building, grading, or septic permit issuance the project applicant's Geotechnical Engineer shall complete site-specific investigations with detailed soils analyses of the actual locations and types of proposed buildings, slabs and pavements. Those investigations shall include laboratory testing of on-site soils to assess their expansion potential. These investigations shall result in design recommendations which include specifications for stabilizing areas of expansive soil (if encountered), quality of imported fill material, compaction standards for engineered soil materials, floor

³⁴ *Soil Survey of Sonoma County, op. cit.*

slab and pavement design recommendations, surface and subsurface drainage requirements, and grading specifications.

Significance After Mitigation Implementation of Mitigation Measure 5.7-9 would reduce project impacts to a less-than-significant level.

Responsibility and Monitoring Prior to building, grading, or septic permit issuance the applicant shall submit the design-level geotechnical report as outlined in Mitigation Measure 5.7-9. As part of building permit applications for individual residential lots, the applicant shall submit the design-level geotechnical reports as outlined in Mitigation Measure 5.7-9 to the County Permit and Resource Management Department. County staff would be responsible to ensure that the recommendations have been incorporated into the structural design of project improvements.

Impact 5.7-10 Low Strength Soils

Site soils may be encountered during site-specific investigations that are of low strength or of low density such that they could collapse or subside under foundation loading. This would be a significant impact.

Low strength or compressible soils can result in subsidence or differential settlements of buildings if foundations are not properly designed and constructed for site-specific soil conditions. The project applicant's Geotechnical Engineer has not conducted site-specific investigations for any of the development areas to develop foundation design recommendations for the proposed development.

Mitigation Measure 5.7-10 Prior to building, grading, or septic permit issuance the project applicant shall conduct site-specific geotechnical investigations and analyses of potential differential settlements of buildings and other site improvements, and develop design criteria as necessary to reduce differential settlements to tolerable levels. Potential measures may include but not be limited to overexcavation and recompaction of weak soils or utilizing deep foundations to extend foundation support through low strength soils and into underlying competent material.

Significance After Mitigation Implementation of Mitigation 5.7-10 would reduce project impacts to a less-than-significant level.

Responsibility and Monitoring Prior to building, grading, or septic permit issuance the applicant shall submit the design-level geotechnical report as outlined in Mitigation Measure 5.7-10. As part of building permit applications for individual residential lots, the applicant shall submit the design-level geotechnical reports as outlined in Mitigation Measure 5.7-10 to the County of Sonoma Permit and Resource Management Department. County staff would be responsible to ensure that the recommendations have been incorporated into the structural design of project improvements.

5.8 VISUAL AND AESTHETIC QUALITY ¹

Visual and Aesthetic Quality

INTRODUCTION

The Initial Study prepared in April 2002 focused this EIR on an examination of the extent to which the project could cause significant visual impacts. This EIR examines the extent of potential visual changes resulting from the proposed development by means of photographs and photosimulations prepared to present “before” and “after” representations of three views of the project site. The methodology used to choose viewpoint locations to represent the project and describe the visual changes from site development is discussed below, followed by descriptions and analyses of the three views selected for evaluation in this EIR.

VISUAL AND AESTHETIC QUALITY METHODOLOGY

The methodology used in this EIR was developed by combining and refining visual assessment techniques originally formulated by government resource agencies for their large-scale land use and management projects.² The methodology was further adjusted to modify specific elements to address the types and scales of project sites and proposed projects normally evaluated in environmental documents prepared pursuant to the California Environmental Quality Act (CEQA). The methodology also was designed to provide an objective basis for determining the significance of visual and aesthetic impacts under CEQA.

The tasks conducted to assess the project’s impacts included viewing the site from several locations around the property, selecting representative viewpoints for consideration in the EIR, describing the site from those locations and determining the sensitivity of each view, illustrating post-project visibility, and determining the significance of impact. These tasks are summarized below.

Determine Viewpoints and Future Conditions

As a part of the initiation of studies for the EIR, the applicant’s arborist, a representative of the County Department of Emergency Services, and the EIR visual analyst met on the project site to discuss

¹ The organization of this section differs slightly from the other sections in chapter 5.0. Rather than provide the entire setting information in one discrete subsection at the beginning of this section existing conditions for each view point are described immediately preceding the analysis of each view.

² The methodology was derived from techniques originally identified by the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) and was modified for CEQA EIR purposes.

proposed tree removal.³ In May, 2002 Vallier Design Associates (the EIR visual analyst) performed field reconnaissance and photo documentation of the project site and surrounding areas to develop an inventory of existing visual resources, determine the project's visibility, and identify potential viewpoints to illustrate the proposed project in the photographic simulations. The site was observed from locations along State Route 12 and Adobe Canyon Road. Representative photographs that document existing visual conditions also were taken at that time.

State Route 12 and Adobe Canyon Road are the two main roadways in the area that provide views of the project site readily available to a large number of people including passing motorists, bicyclists and pedestrians travelling along both roads. It was determined that these are the only public areas from which the project site can be seen. Based on the field reconnaissance and the potential visibility of the project site, two locations along State Route 12 (one immediately adjacent to the project site and another west of Adobe Canyon Road) and one location along Adobe Canyon Road were selected as potential study viewpoints. A County staff member and the EIR visual analyst visited the project site to review the selected viewpoints and the photographs.⁴

The Initial Study identified the need for on site tree removal that would be required for fire safety and possibly allow for views from the proposed buildings out toward the valley. The field reconnaissance and initial photography underscored questions about the eventual visibility of future development proposed by the *Sonoma Country Inn* project in relation to the site's tree canopy and the vegetative screen formed by the existing trees. An additional site visit was conducted in June 2002 to review potential tree removal visual impacts. This site visit was made to review representative tree thinning that had been completed on a couple of the residential lots by the project applicant.⁵

Three views were selected for preparation of photosimulations. Exhibit 5.8-1 shows the locations of the viewpoints selected for inclusion in this report, and Exhibits 5.8-4, 5.8-7, and 5.8-9 show existing conditions from the viewpoints. The exhibits are presented in the impact analysis with the accompanying photosimulations showing post-project conditions as seen from these locations (Exhibits 5.8-5, 5.8-8, and 5.8-10).

Characterize Views

This EIR considers two elements to characterize a view and objectively measure the change to the view in order to determine the significance of project impacts. One element is the *sensitivity* of the view which describes the nature of the landscape cover (grassland or woodland), the prominence of the view (on a ridge, along a slope, in a valley), the surroundings (developed and undeveloped surrounding uses), and the plans and policies governing the use of the land (which provide an expectation of development and encourage or discourage certain types of development). The second element is the *visual dominance* of the project. *Visual dominance* is a measure of how the form, line,

³ This initial field reconnaissance was conducted as a part of a field review attended by County staff, applicant's representatives, and the EIR consultant team. James MacNair, (applicant's arborist), Peter Martin, Sonoma County Department of Emergency Services, and Matt Brockway, Vallier Design Associates (EIR visual analyst) reviewed tree removal issues at this time, April 11, 2002.

⁴ Field reconnaissance by Paula Stamp, AICP, Senior Environmental Specialist, Sonoma County Permit and Resource Management Department and Matt Brockway (EIR visual analyst), Vallier Design Associates, May 16, 2002.

⁵ Field reconnaissance by James MacNair, MacNair & Associates, (applicant's arborist), Mike Morrison, (applicant's planner), and Matt Brockway (EIR visual analyst), Vallier Design Associates, June 2002.

Exhibit 5.8-1

color, and texture of structures added to a view interact with those elements of the natural surroundings where the project would be built. Those elements are further defined as follows:

Form The shape or structure of something as opposed to the material which composes it. Important subelements of form include *geometry* (the shape of the form), *complexity* (the simplicity of the form), and *orientation*.

Line The path, real or imagined, the eye follows when perceiving abrupt differences in form, color, or texture. The most common line in the landscape is the edge of shapes or masses. Important subelements of line include *boldness* (the strength of the line), *complexity* (the simplicity of the line), and *orientation*.

Color The property of reflecting light. Color is composed of *hue* (the aspect of color we know by name, such as blue or green), *value* (the degree of darkness from black to white), and *chroma* (the degree of color saturation or grayness, ranging from pure (high chroma) to dull (low chroma)).

Texture The visual or tactile surface characteristics of something. Texture consists of *grain* (the relative dimensions of surface variation, from fine to coarse), *density* (the spacing of surface variation), and *regularity* (the amount of evenness and randomness).

Determine Sensitivity Level of Views

Existing views have variations in form, line, color, and texture described above. These elements were used to describe existing views (and then the relationship of development to the site). Defining the sensitivity level of a view represented an attempt to combine the nature of the landscape cover, the prominence of the view, the surrounding uses, and plans and policies which might permit development and create an expectation of change or might discourage certain types of development which could bring about a negative change.

The *Sonoma County General Plan (General Plan)* designates the project site as a Scenic Landscape Unit and as a Community Separator and State Route 12 adjacent to the project site as a Scenic Corridor.⁶ State Route 12 in the vicinity of the project site is an officially designated State Scenic Highway.⁷ The *Sonoma County Zoning Ordinance (Zoning Ordinance)* designates the entire project site as a Scenic Resources (SR) district.

The *Zoning Ordinance* states that the purpose of the SR district is to preserve the visual character and scenic resources of lands in the county and to implement provisions of Sections 2.1, 2.2, and 2.3 of the *General Plan Open Space Element*. It also states that in community separators and scenic landscape units, all structures shall be sited below exposed ridgelines; natural landforms and existing vegetation shall be used to screen structures and driveways from public view; cuts and fills are discouraged; and utilities should be placed underground. In addition, building envelopes shall be established, use of height limitations should be considered, clustering shall be used to reduce visual impacts, building sites and roads shall be located to preserve trees and tree stands, and dedication of permanent scenic or

⁶ *Sonoma County General Plan Open Space Element*, adopted by the Sonoma County Board of Supervisors on March 23, 1989, Figure OS-2.

⁷ In Sonoma County approximately 12 miles of State Route 12 (from Danielli Avenue east of Santa Rosa to London Way near Aqua Caliente) is officially designated as a State Scenic Highway.

agricultural easements shall be required at the time of subdivision. The *General Plan Open Space* element, calls for retention of the largely open, scenic character of scenic landscape units, as they provide scenic backdrops to communities and important visual relief from urban densities.⁸

It must also be recognized that in 1984 Sonoma County approved a project on the entire 476 acre Graywood Ranch and that both the *General Plan* and the *Zoning Ordinance* provide for future development on the project site. Thus both the *General Plan* and the *Zoning Ordinance* provide an indication of an expectation of development.

This EIR uses the sensitivity levels *low*, *moderate*, *high*, and *maximum* to determine the level of visual dominance appropriate for each view. This is summarized in Exhibit 5.8-2.

EXHIBIT 5.8-2
SENSITIVITY LEVEL AND APPROPRIATE VISUAL DOMINANCE

Sensitivity Level	Appropriate Visual Dominance	
Low	Dominant	Project dominates the landscape. Project elements are strong -- they stand out against the setting and attract attention away from the surrounding landscape. Form, line, color, and texture can contrast with existing elements.
Moderate	Co-Dominant	Project co-dominates. Project elements are moderate -- they are prominent within the setting and attract attention equally with other landscape features. Project generally must borrow from naturally established form, line, color, and texture so that visual characteristics are compatible with their surroundings.
High	Subordinate	Project is visibly subordinate. Element contrasts are weak -- they can be seen but do not attract attention. Project generally must repeat the form, line, color, and texture of its surroundings.
Maximum	Inevident	Project is generally not visually evident. Element contrasts are not visible or perceived. Project changes in the characteristics of size, amount, intensity, pattern, etc. should not be evident.

Source: Nichols-Berman

The sensitivity level for each of the views analyzed in this EIR is described in the individual impact section for the specific view.

Prepare Photosimulations

Photosimulations were prepared to illustrate development at buildout of the *Sonoma Country Inn* project as seen from each viewpoint (Exhibits 5.8-5, 5.8-8, and 5.8-10). Simulations illustrate project features discussed in *Section 3.2 Description of the Proposed Project* and presented below. The simulations are conceptual and represent an educated guess based on review of the applicant's materials, floor elevations, maximum building heights, and conceptual elevations for portions of the

⁸ *Sonoma County General Plan Open Space Element, op. cit.*, section 2.2 Policy for Scenic Landscape Units.

inn/spa/restaurant and the winery. Conceptual elevations for the residential structures were not available.

Visual Changes Created by the Project

Chapter 3.0 Description of the Proposed Project presents the aspects of the proposed project defined by the applicant's proposed Development Plan, the most relevant visual characteristics of which are described below, including key design assumptions used to prepare the photosimulations.

The principal components of the project which potentially could influence ground-level views include the following:

- x Residential buildings
- x Inn and Spa, including the cottages
- x Winery and related buildings

Exhibit 3.0-12 shows architectural concepts for the inn's main house. Exhibit 3.0-13 shows architectural concepts for the cottages. As illustrated in Exhibits 3.0-12 and 3.0-13 exterior building materials, as proposed by the project applicant, include:

- x Roofs would be constructed of metal or slate tile
- x Typical walls would be plaster or stucco with a stone base
- x Timber trellis would be used on the buildings

The project applicant has submitted information to Sonoma County that shows the finish floor elevation of the main house at 722 feet elevation and the finish floor elevation of the second floor at 736 feet elevation. The peak of the roof of the cottages would be 30 feet above existing grade. For both the main house and the cottages the top of the chimney would extend beyond the top of the roof. In addition to the inn's main house, which would be a combination of one and two story buildings, there would be a single story pool/cabana/fitness building and a single story spa building.

Exhibit 3.0-16 shows architectural concepts for the winery. As illustrated in Exhibit 3.0-16, exterior building materials, as proposed by the project applicant, include:

- x Roofs would be constructed of metal
- x Typical walls would include wood siding and stone

The highest peak of the roof of the winery would be 35 feet above existing grade. A cupola would extend beyond the top of the roof.

In order to represent the proposed project accurately, a three-dimensional Computer Aided Design (3D CAD) model was developed using AutoCAD software and software specifically designed to be used in conjunction with AutoCAD. This software was used to develop the 3D terrain and architectural aspects of the model. The model includes proposed grading and structures as defined in the project application. No design information was available for the residential lots.

The proposed building materials and paint colors⁹ were then applied to the model and rendered accurately, duplicating the view angle, distance, lighting conditions, and time of year in the existing conditions photograph. Existing elements visible in the baseline photograph were included in the 3D model and used as control points to register the model to the photograph. Once accurately registered, the model was rendered together with the baseline photograph for each viewpoint location. The simulations represent the mass, scale, density, and visibility of the project according to the information provided in the project application.

Residential Lots

One conceptual solid model building was developed and used on all residential lots. The building assumptions for the residential lots include; approximately 8,500 square foot floor area, occupying most of the identified building envelope of each residential lot. Since many of the lots are sloped, the residential home model was tiered to be placed on a sloping lot, with a 4/12 roof slope. Building materials were assumed to be the same as the inn and cottages; brown stucco walls and slate roof.

Determine Significance

Views are changed by the addition of structures and alterations to the natural site. Whether the structures adopt the existing variations in form, line, color, and texture or create new ones determines the level of *visual dominance* of a project. For example, if the existing view is composed of natural colors or earth tones, a structure could adopt those colors and have a lower visual dominance or could be painted or plastered with a completely different contrasting color and create a high level of visual dominance. This EIR uses four levels of visual dominance -- *dominant*, *co-dominant*, *subordinate*, and *inevident* -- with a different maximum level of visual dominance appropriate to each level of view sensitivity identified above. Using the matrix in Exhibit 5.8-3, the level of change was determined.

The level of visual significance is determined by placing a view's *sensitivity* in a matrix with the project's *visual dominance*. An impact is considered significant if its visual dominance exceeds what is considered appropriate for the view's sensitivity level. The resulting matrix is shown in Exhibit 5.8-3.

**EXHIBIT 5.8-3
 VISUAL SIGNIFICANCE MATRIX**

Sensitivity	Visual Dominance			
	<i>Dominant</i>	<i>Co-dominant</i>	<i>Subordinate</i>	<i>Inevident</i>
Maximum	Significant	Significant	Significant	Less-than-significant
High	Significant	Significant	Less-than-significant	Less-than-significant
Moderate	Significant	Less-than-significant	Less-than-significant	Less-than-significant
Low	Less-than-significant	Less-than-significant	Less-than-significant	Less-than-significant

Source: Nichols-Berman

⁹ The proposed building materials and paint colors were supplied by the applicant's architect; the date on the sample board is April 2002.

In addition, Caltrans has provided examples of visual intrusions along scenic highways. In regard to residential, commercial and industrial development Caltrans cites the following as minor, moderate and major visual intrusions along scenic highways:¹⁰

Minor

Widely dispersed buildings. Natural landscape dominates. Wide setbacks and buildings screened from roadway. Exterior colors and materials are compatible with environment. Buildings have cultural or historical significance.

Moderate

Increased number of buildings, but these are complementary to the landscape. Smaller setbacks and lack of roadway screening. Buildings do not degrade or obstruct scenic view.

Major

Dense and continuous development. Highly reflective surfaces. Buildings poorly maintained. Visible blight. Development along ridge lines. Buildings degrade or obstruct scenic view.

Visual and Aesthetic Quality -- Significance Criteria

The visual and aesthetic quality analyses use criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant visual and aesthetic quality impact if it:

- x Substantially affected a scenic vista.
- x Substantially damaged scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.
- x Substantially degraded the existing visual character or quality of the site and its surroundings.
- x Created a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

While all projects create some visual change, CEQA provides little guidance about how much change is significant. Most EIRs rely on two methods to determine what change is significant. The first is conformance with adopted plans and policies, and the second is a visual analysis. Both methods are used in this EIR. **Chapter 4.0 Consistency with Public Plans and Zoning** presents the former, and the visual analysis is presented here.

¹⁰ *Guidelines for the Official Designation of Scenic Highway*, Caltrans, March 1996.

Visual and Aesthetic Quality – Setting, Impacts, and Mitigation Measures

The photographs showing existing conditions and the photosimulations of those views are grouped with the respective impact discussions on the following pages. Exhibit 5.8-1 shows all viewpoint locations.

Impact 5.8-1 View from State Route 12 at Lawndale Road looking North

From this viewpoint, glimpses of some parts of the winery occur among the trees at the lowest elevations of the site. Also, portions of houses on residential lots 3 and 4 are visible. This impact would be less-than-significant.

Setting Exhibit 5.8-4 shows the existing view of the project site from State Route 12 near Lawndale Road. The landscape in the vicinity of the proposed project, as seen from State Route 12 and other local roads, has a distinct rural character. In addition to rolling, wooded hills and flat, open grasslands, the landscape includes various forms of development including wineries, residences, and occasional commercial establishments along State Route 12. In Exhibit 5.8-4, the view from this location is comprised of a relatively flat and open area adjacent to State Route 12 backed by a series of hills that rise to form the horizon. A wooden rail fence parallel to the road marks the near edge of the flat, foreground area that extends back for some distance to the base of the hills. The flat area has a grass cover and scattered, mature trees of various species that break the area up into smaller units of open space. The hills feature an undulating ridgeline and a variety of vegetation including a few bald, grassy patches near the top of the ridge, extensive shrub-covered hillsides marked by lines of trees, and a dense cover of trees at the mid and low elevations. Other than the fence along the highway, no other human-made structures are readily visible in this particular view, although a cleared linear strip of a dirt road can be seen on one of the hillsides. In other, nearby locations along State Route 12, there are open views of wineries such as the St. Francis winery tasting room, and Ledson winery west of the project site.

View Sensitivity and Dominance The project site is considered visually sensitive as viewed from State Route 12, due to the *General Plan Open Space Element's* designations of Community Separator, Scenic Landscape Unit, and Scenic Highway Corridor plus its designation as a State Scenic Highway. The sensitivity of this view is *high*. Because both the Community Separator and Scenic Landscape Unit designations permit a certain level of development, the sensitivity of this view is not considered *maximum*. Therefore, based on Exhibit 5.8-3, for development introduced onto the site from this viewpoint to be a less-than-significant impact the development would need to be *subordinate*.

Impacts Exhibit 5.8-5 presents a simulation of the site after development. The simulation depicts the post project conditions including approximated tree removal around building pads and structures at proposed finished floor elevations. No detailed grading or tree removal information was provided by the applicant and therefore is not shown.

As depicted in the simulated view of the project from this location, the combination of topography and trees screen most of the proposed development from view. Glimpses of some parts of the winery occur among the trees at the lowest elevations of the site. The view of the winery from State Route 12 is negligible. Portions of houses on residential lots 3 and 4 are visible among the dense cover of evergreen trees. No part of the development is seen at or above the ridgeline. The horizontal and vertical lines of the new structures are similar to those of the existing rail fence seen in the foreground along State Route 12. The colors of the new buildings are lighter than the surrounding trees, yet appear similar in hue to those found in the surrounding landscape. Screened by the trees, the buildings do not attract attention. Overall, the proposed development seen from this location appears

subordinate with respect to other, existing features of the view. Therefore the development would create a less-than-significant visual impact from this location.

Based on the Caltrans examples of visual intrusions along scenic highways cited above, the proposed project would have a minor intrusion into the State Route 12 scenic corridor.

Exhibit 5.8-6 shows a section of the project site. The portion of the site shown in the section is shown on Exhibit 5.8-1. The section view depicts the site's relationship to State Route 12 with regard to distance, topography, and tree cover. This helps explain why only a few portions of the project would be visible from this location on State Route 12. The majority of the proposed development, including the inn/spa/restaurant, is located about 3,600 feet from the highway on a topographic bench and behind and among a stand of evergreen trees. The proposed winery, nearest to State Route 12, is located on flat ground at the same elevation as the highway among a more open and loose stand of trees.

Grading would be required to develop on-site roads, parking lots, building pads for the inn/spa/restaurant, the winery, plus the 11 residential buildings. The applicant has not yet prepared a grading plan for the project site. Based on the information available, however, as shown in Exhibit 5.8-5, no ground-level features such as roads, driveways, or parking areas are seen.

Mitigation Measure 5.8-1 No mitigation would be required.

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Exhibit 5.8-4

Exhibit 5.8-5

Exhibit 5.8-6

Impact 5.8-2 View from Adobe Canyon Road looking northwest

From this viewpoint, portions of the main area of the proposed project would be seen. The upper part of the inn's main house and adjacent cottages extend above the tops of intervening trees on the hillside immediately in front of the development. This impact would be less-than-significant.

Setting Exhibit 5.8-7 shows the existing view of the project site from Adobe Canyon Road. Existing development is seen in the foreground of the view in the flat areas along Adobe Canyon Road. The view of the existing development includes houses, other buildings, fences, and overhead utilities. Beyond the development, a series of hills are seen extending into the distance as they rise in elevation to where the undulating ridgeline forms the horizon. A topographic bench above the nearest hills is evident in about the center of the view, marked by a break in the otherwise dense tree cover as an open, grassy patch at a low saddle flanked by higher hills. More distant hills rise steeply behind this intermediate, near ridge. The distant hills are steep and rugged with a combination of tree and shrub cover. Occasional rock outcrops are evident on the steepest slopes. The existing development seen in the foreground and the large scale, rugged hills in the distance are the dominant features of the view.

View Sensitivity and Dominance The project site is considered visually sensitive as viewed from Adobe Canyon Road, due to the *General Plan Open Space Element's* designations of Community Separator and Scenic Landscape Unit, however, Adobe Canyon Road is not designated a Scenic Highway Corridor. Therefore, the sensitivity of this view is *moderate*. Based on Exhibit 5.8-3, for development introduced onto the site from this viewpoint to be a less-than-significant impact the development would need to be co-dominant.

Impacts Exhibit 5.8-8 presents a simulation of the site after development. The simulation depicts the post project conditions including approximated tree removal around building pads and structures at proposed finished floor elevations. No detailed grading or tree removal information was provided by the applicant and therefore is not shown.

As depicted in the simulated view from this location, portions of the inn/spa/restaurant are seen. The upper-most portion of the inn's main house and adjacent cottages extend above the tops of intervening trees on the hillside immediately in front of the development. Some of the guest cottages east of the main house are more fully exposed. Ground-level features such as roads and parking areas are not seen. The distance from the viewpoint to the center of the area of the development shown in the simulated view is approximately 3,200 feet. Architectural details and surface textures are difficult to discern at this distance. No part of the development is seen at or above the ridgeline. The horizontal and vertical lines of the proposed structures are similar to those of the existing development seen in the foreground along Adobe Canyon Road. The colors of the new buildings are lighter than the surrounding vegetation, yet are similar in hue to those found in the surrounding landscape. While portions the project would be in view from this location, the proposed development appears co-dominant with other features, particularly the existing development in the foreground of the view and the hills behind the proposed project. Therefore the development would create a less-than-significant visual impact from this location.

Grading impacts would be similar as described in Impact 5.8-1.

Mitigation Measure 5.8-2 No mitigation would be required.

Exhibit 5.8-7

Exhibit 5.8-8

Impact 5.8-3 View from State Route 12 west of Adobe Canyon Road looking North

From this viewpoint, portions of the main area of the proposed project are seen. The inn's main house is almost entirely screened from view. However, many of the guest cottages are located in an area where they are not screened by trees, or extend well above the tops of intervening trees on the hillside immediately in front of the development. The form and color of the buildings would attract the attention of views at this viewpoint. This impact would be significant.

Setting Exhibit 5.8-9 shows the existing view of the project site from State Route 12 just west of Adobe Canyon Road. Vineyards and existing development are seen in the foreground of this view in the flat areas along State Route 12. The view of the existing development includes a view of the Landmark Winery (and its flag pole), houses, other buildings, and overhead utilities set among mature trees at the back of vineyard. Beyond, a series of hills extend into the distance and rise in elevation to form the horizon with the sky. A topographic bench above the nearest hills is evident at the lower elevations. A faint, open patch among the dense stand of trees identifies the bench. More distant hills featuring a combination of tree and shrub cover rise high above the bench. The distant hills are steep and rugged with occasional rock outcrops on the steepest slopes. Near the top of the ridge, some large, treeless areas are readily evident. The vineyard and related development in the foreground of the view and the large scale, distant hills are the dominant visual features.

View Sensitivity and Dominance The project site is considered visually sensitive as viewed from State Route 12, due to the *General Plan Open Space Element's* designations of Community Separator, Scenic Landscape Unit, and Scenic Highway Corridor plus its designation as a State Scenic Highway. The sensitivity of this view is *high*. Because both the Community Separator and Scenic Landscape Unit designations permit a certain level of development the sensitivity of this view is not considered *maximum*. Therefore, based on Exhibit 5.8-3, for development introduced onto the site from this viewpoint to be a less-than-significant impact the development would need to be *subordinate*.

Impacts Exhibit 5.8-10 presents a simulation of the site after development. The simulation depicts the post-project conditions including approximated tree removal around building pads and structures at proposed finished floor elevations. No detailed grading or tree removal information was provided by the applicant and therefore is not shown.

Similar to the view from Adobe Canyon Road, portions of the inn/spa/restaurant are seen from this location on State Route 12. The distance from this viewpoint to the center of the area of the development shown in the simulated view is approximately 4,000 feet. At a travel speed of 45 miles per hour, motorists on State Route 12 would have such views of the proposed project for about 60 seconds before it could no longer be seen. The inn's main house is almost entirely screened from view. However, many of the guest cottages are located in an area where they are not screened by trees, or extend well above the tops of intervening trees on the hillside immediately in front of the development. Therefore, the guest cottages are visible from State Route 12. Ground-level features such as roads and parking areas are not seen. Architectural details and surface textures are more difficult to discern at this distance. No part of the development is seen at or above the ridgeline. The horizontal and vertical lines of the proposed structures are similar to those of existing development seen along State Route 12. The colors of the new buildings are lighter and a different hue than the immediately surrounding vegetation, although are similar in hue to those found in the general setting, particularly in open hillside areas near the ridgeline. From this location, the proposed development appears less dominant than other, existing features of the view, such as the vineyard and related development seen in the foreground, and the large hills that form the background of the view. However, the proposed development would attract attention when seen from this viewpoint, due to the visual contrast of the form and color of the buildings with the immediately surrounding landforms and

vegetation. This does not meet the definition of subordinate as given in Exhibit 5.8-2, *Sensitivity Level and Appropriate Visual Dominance*. Rather the project would be co-dominant and thus the development would create a significant visual impact from this location.

Based on the Caltrans examples of visual intrusions along scenic highways cited above, the proposed project would have a moderate intrusion into the State Route 12 scenic corridor.

Grading impacts would be similar as described in Impact 5.8-1.

Mitigation Measure 5.8-3 In order to minimize visual impacts, measures shall be applied to reduce the visual contrast of the inn/spa/restaurant with the immediately surrounding setting so that the project would not attract attention as seen from State Route 12. Such measures include the use of certain colors on exterior building surfaces and retaining as many trees on the project site as possible. The measures shall require:

- x Colors used for exterior building surfaces shall match the hue, lightness, and saturation of colors of the immediately surrounding trees. Several colors matching those of the surrounding trees shall be used in order to minimize uniformity.
- x The height of guest cottage buildings (building types D and F, two stories) located east of the inn's main house and closest to State Route 12 shall be limited to 20 feet as measured from the original ground elevation to the peak of the roof in order to minimize the amount of the buildings that can be seen from State Route 12 west of Adobe Canyon Road.
- x Existing trees in the area between the inn/spa/restaurant and State Route 12 shall be preserved to the extent possible in order to provide a screen and minimize the amount of the building that can be seen from State Route 12 west of Adobe Canyon Road.
- x The finish floor elevation of the main house shall not exceed 722 feet elevation and the finish floor elevation of the second floor shall not exceed 736 feet elevation.
- x Prior to building permit issuance for the inn/spa/restaurant, the grading plan, development plan, landscaping plan, sign plan, elevations, and colors and materials shall receive review and approval of the Sonoma County Design Review Committee.

Significance after Mitigation With implementation of Mitigation Measure 5.8-3, the visual impact of the project from the viewpoint on State Route 12 west of Adobe Canyon Road would be reduced to less-than-significant. If building heights were not maintained as specified above or if project colors were not selected to match the hue, lightness, and saturation of colors of the immediately surrounding trees, the impact would remain significant.

Responsibility and Monitoring The applicant would be responsible to submit a revised development plan and tentative map that incorporates Mitigation Measure 5.8-3 to the County Permit and Resource Management Department. Prior to recording the final map the revised site plan, including building materials, colors, and landscaping, for the inn/spa/restaurant shall be reviewed and approved by the County Permit and Resource Management Department.

Exhibit 5.8-9

Exhibit 5.8-10

Impact 5.8-4 Light Pollution

Implementation of the proposed project would result in new lighting sources on the project site, which together with other proposed development, could lead to increased light pollution. This would be both a significant project impact and a significant cumulative impact.

Public comments during the scoping process expressed concerns about potential light pollution impacts of the proposed *Sonoma Country Inn* project, especially related to impacts to the Robert Ferguson Observatory located in Sugarloaf Ridge State Park. It should be noted that there are no adopted Countywide policies or regulations which apply to lighting.

Although a precise definition does not exist, light pollution is generally considered wasted light that does nothing to increase nighttime safety, utility, or security. Such wasted light produces glare, clutter, light trespass, and wastes energy, money, and natural resources.¹¹ A product of light pollution is urban sky glow, the brightening of the night sky due to manmade lighting.¹²

Landforms generally cannot be seen at night. Rather, the location, type, and quantity of light sources become the important visual factors. Nighttime sources of light can include vehicle headlamps, streetlights, decorative outdoor landscape or security lighting, and interior lighting. Highly visible lights at night can disrupt views by interrupting the viewshed and have the potential to be seen for miles if geography and landscaping do not intervene. Moving sources of light and glare (such as vehicles) easily catch the eye and are difficult to ignore.

The project description does not include specific information in regard to the proposed on-site lighting plan. Therefore, an evaluation of the proposed outdoor lighting (such as proposed street lighting, exterior lighting of buildings, and security lighting) cannot be completed at this time. It can, however, be stated that nighttime lighting would be visible off-site. Nighttime lighting effects could *dominate* the view from State Route 12 and Adobe Canyon Road. This would be a significant impact.

Furthermore, it can be stated the necessary on-site lighting for the *Sonoma Country Inn* together with other cumulative development in the area could result in a significant increase in light pollution. A specific concern with the proposed project plus other cumulative projects would result in an increase in the urban sky glow which reduces the visibility of the night sky and thus adversely affects the effectiveness of the Robert Ferguson Observatory.¹³

Currently there is not a lighting plan for the inn/spa/restaurant, the winery, or the 11 residential units. The residential lots would be governed by a Homeowners' Association which would have the authority to manage and regulate aspects of the property. A detailed set of Conditions, Covenants, & Restrictions (CC&Rs) would be prepared for review and approval by Sonoma County prior to the project's final map being recorded. A component of the Homeowner's Association would be a Design Review Committee which would review and approve design of homes and any other structures on the

¹¹ *The Problem with Light Pollution*, International Dark-Sky Association, Information Sheet 1, May 1996.

¹² *Light Pollution – Theft of the Night*, International Dark-Sky Association, Information Sheet 90, October 1993.

¹³ Nichols Berman conversation with Terry Dye, Vice President, Valley of the Moon Observatory Association, July 2002.

residential lots. It is proposed that the as a part of any residential development the Homeowner's Association's Design Review Committee shall approve a lighting plan. ¹⁴

The lighting plan shall require:

- x All light sources shall be shielded from off-site view.
- x All lights to be downcast except where it can be proved to not adversely affect other parcels.
- x Escape of light to the atmosphere shall be minimized.
- x Low intensity, indirect light sources shall be encouraged.
- x On-demand lighting systems shall be encouraged.
- x Mercury, sodium vapor, and similar intense and bright lights shall not be permitted except where their need is specifically approved and their source of light is restricted.

Mitigation Measure 5.8-4 In order to minimize light pollution impacts prior to building permit issuance an exterior lighting plan shall be submitted to the County Permit and Resource Management Department Design Review Committee for the inn/spa/restaurant and the winery for review and approval. Prior to recording the final map, standards to be included in the project's CC&Rs for implementation by the Homeowners' Association for exterior lighting plans for residential units shall also be submitted to the County Permit and Resource Management Department for review and approval. The lighting plans shall require:

- x All light sources shall be fully shielded from off-site view.
- x All lights to be downcast except where it can be proved to not adversely affect other parcels.
- x Escape of light to the atmosphere shall be minimized.
- x Low intensity, indirect light sources shall be encouraged.
- x On-demand lighting systems shall be encouraged.
- x Mercury, sodium vapor, and similar intense and bright lights shall not be permitted except where their need is specifically approved and their source of light is restricted.

Significance after Mitigation Even with implementation of Mitigation Measure 5.8-4, the *Sonoma Country Inn*, alone and together with other proposed development would result in new lighting sources leading to increased light pollution. This would be both a significant unavoidable project impact and a significant unavoidable cumulative impact.

Responsibility and Monitoring The applicant would be responsible for submitting the exterior lighting plans to the County Permit and Resource Management Department. Prior to building permit

¹⁴ Additional description of the Lighting Element to be included in the Conditions, Covenants & Restrictions is provided in *Addendum #2 to the Sonoma Country Inn Project*, Common Ground Land Planning Services, February 2002.

issuance an exterior lighting plan shall be approved for the inn/spa/restaurant and the winery. Prior to recording the final map, standards to be included in the project's CC&Rs for implementation by the Homeowners' Association for exterior lighting plans for residential units shall be approved.

**EXHIBIT 5.8-1
LOCATION OF VIEWPOINTS**

5.8 - 3

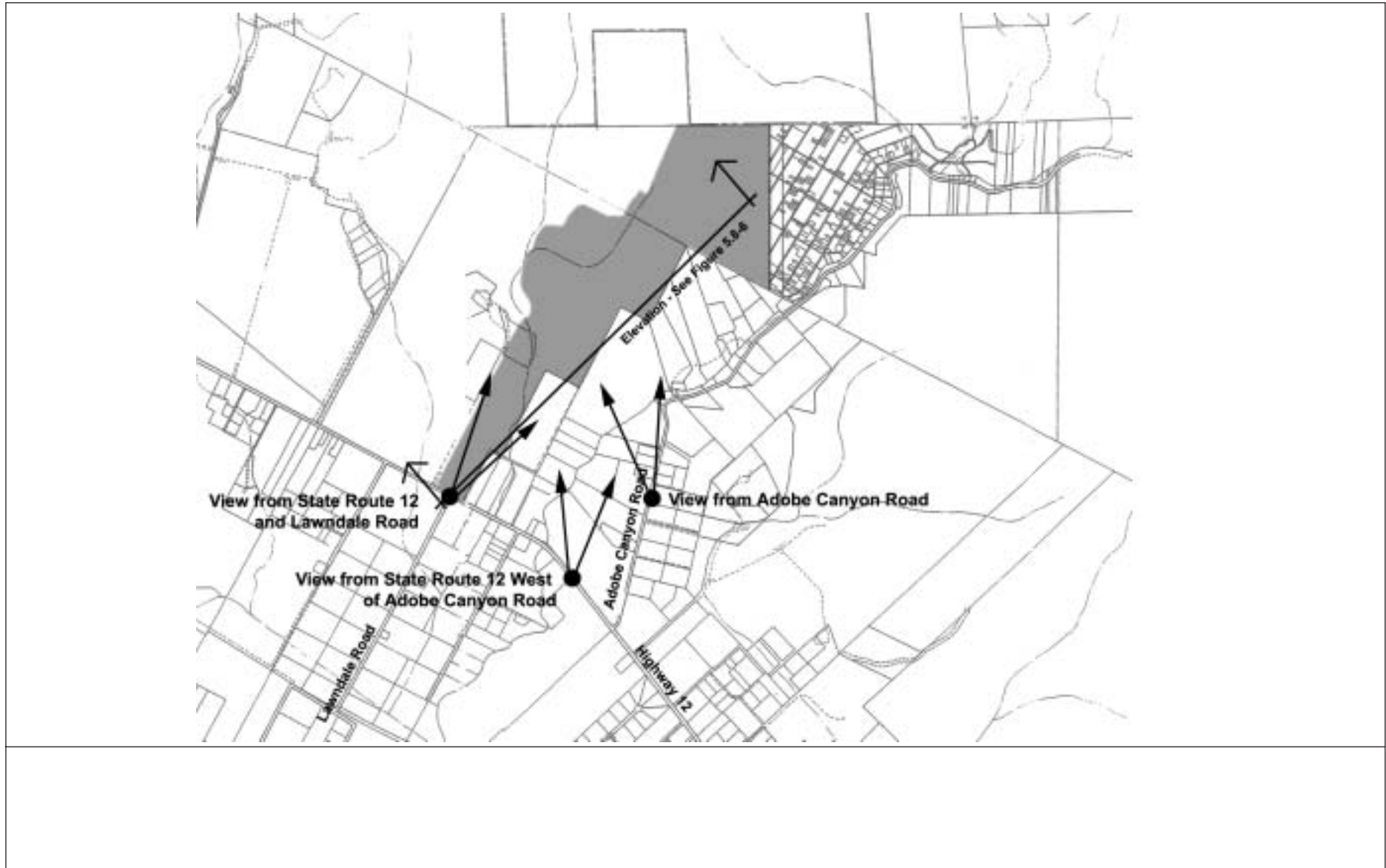
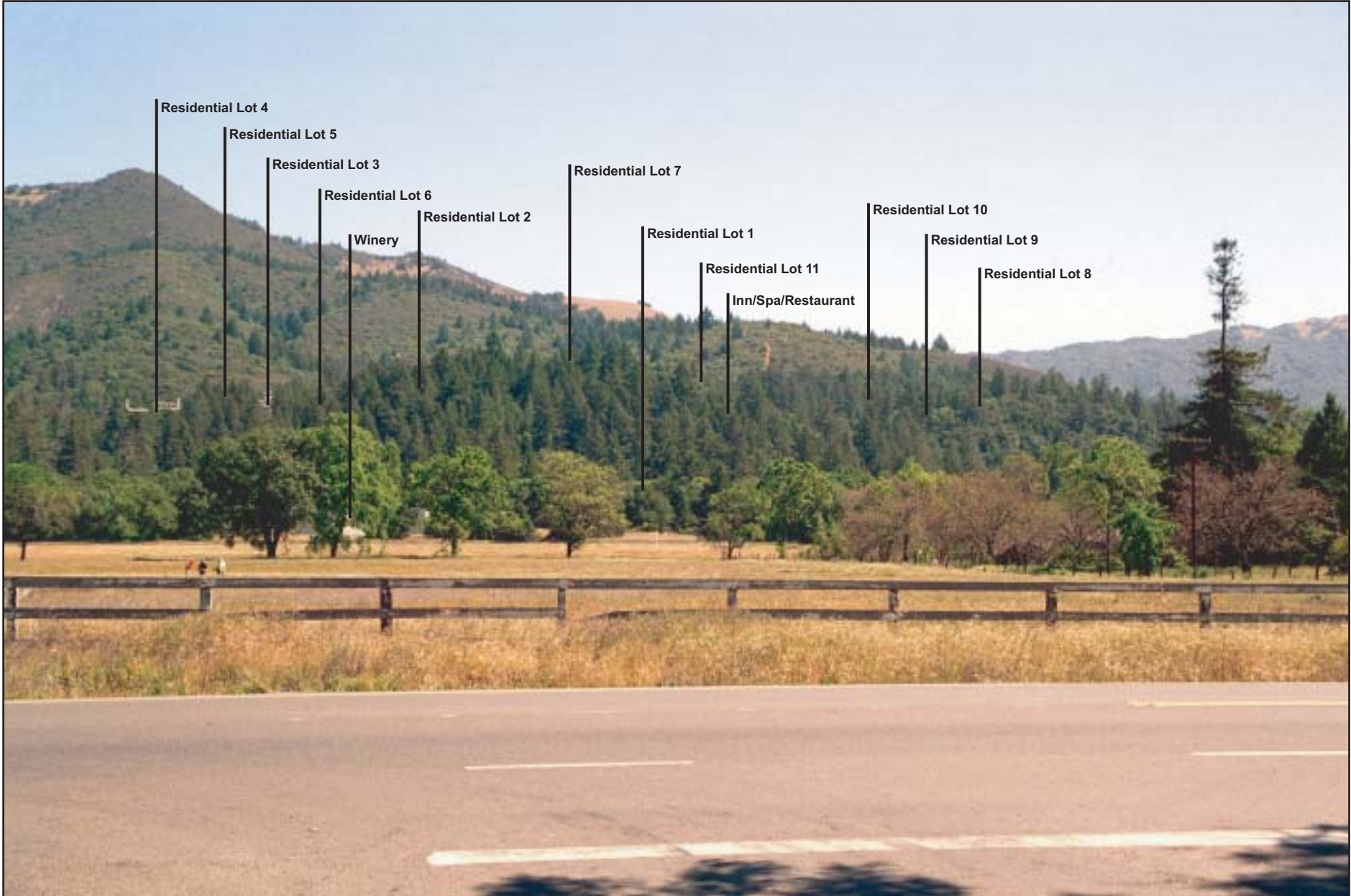


EXHIBIT 5.8-4
VIEW FROM STATE ROUTE 12 AND LAWNSDALE ROAD - EXISTING CONDITIONS



5.8 - 12

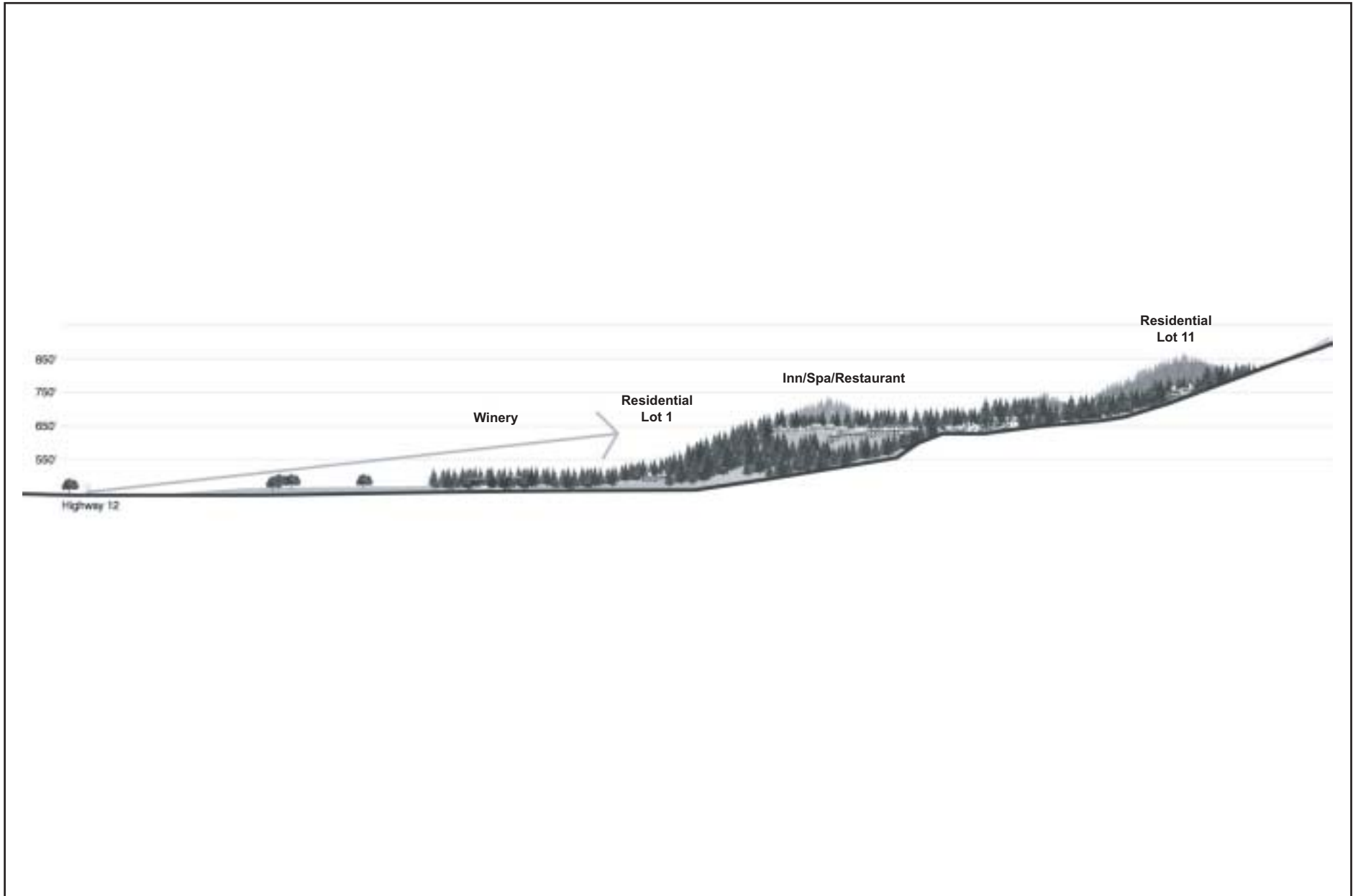
**EXHIBIT 5.8-5
VIEW FROM STATE ROUTE 12 AND LAWNSDALE ROAD - PROPOSED PROJECT**



5.8 - 13

**EXHIBIT 5.8-6
ELEVATION**

5.8 - 14



Source: Vallier Design Associates

EXHIBIT 5.8-7
VIEW FROM ADOBE CANYON ROAD - EXISTING CONDITIONS



5.8 - 16

EXHIBIT 5.8-8
VIEW FROM ADOBE CANYON ROAD - PROPOSED PROJECT



5.8 - 17

EXHIBIT 5.8-9
VIEW FROM STATE ROUTE 12 WEST OF ADOBE CANYON ROAD - EXISTING CONDITIONS



5.8 - 20

EXHIBIT 5.8-10

VIEW FROM STATE ROUTE 12 WEST OF ADOBE CANYON ROAD - PROPOSED PROJECT



5.8 - 21

5.9 CULTURAL RESOURCES

Cultural Resources – The Setting

The section addresses potential impacts to cultural resources as a result of the proposed *Sonoma Country Inn* project. As a part of the preparation of this section a technical report was prepared and is on file with Sonoma County.¹

Note that while an EIR is a disclosure document, information about the specific location of archaeological sites or sacred lands is specifically restricted from disclosure under the *State CEQA Guidelines* section 15120(d). Therefore, this discussion is a general summary of the full analysis prepared for this EIR.

PREHISTORIC AND ARCHAEOLOGICAL SETTING

The project site is situated in the ethnographic boundary of the Wappo, who occupied the upper Napa Valley, extending from above the present day cities of Napa and Sonoma in the south to Cloverdale and Middletown in the north.² The name Wappo is believed to be derived from the Americanization of the Spanish word *guapo* meaning harsh, severe, daring, brave, or handsome.³

The Wappo language is one of four languages in the Yukian language stock found in the North California Coast.⁴ The Proto-Yukians are thought to have been the first inhabitants of the North Coast Ranges, occupying the region from the San Francisco Bay to the Klamath Mountains. After various proposed population shifts, the Wappo eventually came to occupy a more restricted area. Whistler suggests that the Pre-Proto-Pomoans originally settled around Clear Lake, northeast of the project site, about 5000 BC.⁵ They then spread out toward the Russian River valley after 3000 B.C., displacing Proto-Yukian populations and initiating a divide between the ancestral Yukians in the north

¹ *Archaeological Investigations for the Sonoma Country Inn*, Sonoma County, California, Pacific Legacy, Inc., July 2002.

² “Wappo”, in *Handbook of North American Indians, Volume 8, California*, J.O. Sawyer, 1978 pages 256 263, *A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769-1810*, R. Milliken, 1995, and *California Archaeology*, M.J. Moratto, 1984.

³ “Wappo”, in *Handbook of North American Indians, Volume 8, California*, J.O. Sawyer, 1978 and *An Archaeological Survey of the Graywood Ranch near Kenwood, Sonoma County, California*, R.A. Stradford and D.A. Fredrickson, Report S-00389, 1976, on file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.

⁴ *California Archaeology*, M.J. Moratto, 1984, and “Wappo”, in *Handbook of North American Indians, Volume 8, California*, J.O. Sawyer, 1978, pages 256 263.

⁵ *Pomo Prehistory: A Case for Archaeological Linguistics*. K.A. Whistler, 1980, Report S-02107, on file at the Northwest Information Center, Sonoma State University.

and the ancestral Wappo in the south.⁶ Moratto has hypothesized that the Wappo seem to have replaced earlier Western Miwok occupants of the Napa Valley soon after 500 AD.⁷ This shift is likely associated with the Wappo displacement caused by the Pomo expansion into Wappo territory. This shift completely separated the Wappo from other Yukian language groups.

Milliken suggests that the tribal group occupying the upper valley of the Sonoma Creek was named *Huiluc*.⁸ Barrett indicated that the ethnographic village of *Huilic* or *Wilikos* was most likely located within the Los Guilicos land grant (which most likely derived its name from the *Huiluc* or *Wilikos* village site).⁹ Many Huilucs were baptized by the Franciscan mission system in Mission San Francisco in 1821, Mission San Raphael in 1822 and 1823, and Mission San Francisco Solano in 1825 and 1832.¹⁰ In 1834, the Franciscan mission system was officially secularized, and the majority of the mission Native population dispersed to local ranches, villages, or nearby pueblos.

Prehistorically, the North Coast Ranges region was one of the most environmentally rich areas in California.¹¹ The mild climate and diverse ecosystem of the area provided a favorable environment for the prehistoric inhabitants of the Sonoma River drainage. These inhabitants could have accessed the resources of several distinct environmental zones of the larger region: the rivers and surrounding hills of the valley itself, and the Pacific coast.

Native American occupation and use of the North Coast Ranges region appears to extend to at least the end of the Pleistocene, roughly 10,000 to 11,000 years ago. Jesse Peter beginning in 1903 conducted the earliest extensive surveys in Sonoma County.¹² In 1921, Peter directed the excavation of CA-SON-84 near the Annadel obsidian source, finding evidence of seasonal occupation over a long period of time. In Napa County, D.T. Davis recorded sites within the Wappo territory including CA-NAP-1 on the west bank of the Napa River. This site was later found to correspond to the early Berkeley Pattern that can be identified throughout Sonoma, Napa, and Southern Lake Counties.¹³

Based on this and other work, however, a tentative scheme has been developed which can be extrapolated to the present project site. Following the Paleoindian period (discussed above), the earliest phase is the Borax Lake Aspect of the Borax Lake Pattern (5,000-8,000 years before present [B.P.]). This is followed by the Mendocino Aspect of the Borax Lake Pattern (3,000-5,000 years B.P.),

⁶ *Ibid.*

⁷ *Ibid*, page 566.

⁸ *A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769-1810*, R. Miliken, 1995, page 244.

⁹ *The Ethno-geography of the Pomo and Neighboring Indians*, S.A. Barrett, 1908.

¹⁰ *A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769-1810*, *op. cit.*

¹¹ The North Coastal Region by D.A. Fredrickson, 1984, in *California Archaeology*, by M.J. Moratto, pages 471-527.

¹² *California Archaeology*, *op. cit.* page 505.

¹³ *Ibid.* pages 506-508.

followed by the Houx Aspect of the Berkeley Pattern (1,500-3,000 years B.P.), which is limited to the southern portion of the North Coast Ranges. The most recent period is the Augustine Pattern (1,500 years B.P.-historic period), with both a prehistoric and historic phase, which probably marks the appearance of complex Pomo society.

HISTORIC SETTING

Soon after the establishment of the mission system, a process of granting large parcels of land to prominent individuals was begun; the first grant in Alta California was made in 1775.¹⁴ The creation of “ranchos,” the process of granting large parcels of land to prominent individuals, was begun during the Spanish Period and continued throughout the Mexican Period. Within a few years, ranchos occupied large tracts of land in the vicinity of the missions, and a pastoral economy involving the missions, the ranchos, and Native inhabitants was established. The project site was part of the Rancho Los Guilicos, granted to John Wilson by Governor Alvarado in 1837.

The latter half of the nineteenth century saw a continued Anglo-American immigration into the San Francisco Bay area, and consequent changes in the culture and economy of the area. Anglo-American culture steadily became the predominant culture in California, though the Hispanic culture continued to exist. Dispersed farmsteads slowly replaced the immense Mexican ranchos.

Following Anglo-American expansion the Sonoma Valley became an important agricultural region. In 1856, Colonel Haraszthy, known as the “father of wine making in California,” purchased a piece of land near the town of Sonoma and built a winery. Vineyards and wineries, and more recently tourism, continue to be important industries in Sonoma County.

METHODOLOGY

Native American Consultation

Native American consultation was initiated on April 12, 2002 with a letter to the Native American Heritage Commission (NAHC). Pacific Legacy, (EIR cultural resources analyst) requested that the NAHC review the Sacred Lands Inventory to determine if any resources of concern are located on the project site. A response was received from the NAHC on April 24, 2002, stating that no Native American cultural resources were identified in the project site. A list of Native American individuals/organizations who may have knowledge of unreported resources or areas of concern was provided. These individuals/organizations were contacted by letter on April 30, 2002.

Two responses were received regarding the project site. On May 29, 2002 a letter was received from Lester Pinola, the Tribal Chairman of Stewarts Point Rancheria, Kashia Band of the Pomo Indians. In the letter, he stated that the project was outside of their cultural territory and they had no concerns. Earl Couey, Cultural Resources Manager and Monitor for the Mishewal-Wappo Tribe of Alexander Valley, responded on May 2, 2002. He indicated that the general area was near an old Wappo village site. He recalled that Wappo relatives born during the late 1870's spoke of villages on Sonoma Creek. He also noted the proximity of the project site to the *Wilikos* village that was an important Wappo site. He remarked that the village site was located within the grounds of the Los Guilicos school property

¹⁴ *Historical Spots in California*, D.E. Kyle, M.B. Hoover, H.E. Rensch, E.G. Rensch, and W.N. Abeloe, 1990.

and that at one point a very large midden was visible at the rear of the administration buildings. However, approximately 30 years ago the mound was bulldozed and hauled away prior to construction. No specific concerns were expressed concerning the present project site, though he noted that the artifacts found in the project site attributable to CA-SON-36 probably are located on the periphery of a larger site. Mr. Couey served as monitor during subsurface exploration of the site for this study.

Record Search and Literature Review

Prior to the archaeological field investigation, a record search was conducted at the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS). This included a review of:

- x National Register of Historic Places (NRHP) (*Directory of Determinations of Eligibility*, California Department of Parks and Recreation, Office of Historic Preservation, Volumes I and II, 1990: Office of Historic Preservation Computer Listing 1990 and updates)
- x *Historic Properties Directory* (State of California Department of Parks and Recreation, Office of Historic Preservation 1999)
- x *California Inventory of Historic Resources* (State of California Department of Parks and Recreation, Office of Historic Preservation 1976)
- x *California Points of Historical Interest* listing May 1992 (State of California Department of Parks and Recreation, Office of Historic Preservation 1992)
- x *California Historical Landmarks* (State of California Department of Parks and Recreation, Office of Historic Preservation 1979)
- x *Caltrans Bridge Inventory and Evaluation* (State of California 1989)

In addition, literature on file with Pacific Legacy was consulted.

The Northwest Information Center record search revealed that four cultural resource studies have been conducted within the project site.¹⁵ In addition, five cultural resources studies have been conducted adjacent to the project site. These studies include archival research, architectural surveys, and archaeological field surveys, monitoring, testing, and excavation projects.

The record search also identified a total of nine previously recorded cultural resources within or adjacent to the project site. Two of these, CA-SON-36 and CA-SON-872, are recorded in the project site, and both are prehistoric archaeological sites. The seven additional resources recorded outside the project site included four historic resources and three prehistoric resources.

¹⁵ These studies were completed by R.A. Stradford and D.A. Fredrickson (1976), K. Flynn (1982), E. Strother (2000) and Archaeological Resource Service (2001). These studies are on file at the Northwest Information Center, Sonoma State University, Rohnert Park, California.

Field Investigation

A field investigation of the project site occurred over a total of eight days between April 24 and May 10, 2002. John Holson and Dr. Michael Bever of Pacific Legacy managed the field investigation. In addition to Pacific Legacy project field and technical staff who participated in the field investigations Earl Couey, with the Mishewal-Wappo Tribe, served as the Native American representative for the field phase of the work.

During the field investigation, CA-SON-872, described as a sparse lithic scatter, could not be located, though the recorded area of the site was closely scrutinized. Either the site no longer exists, or it is an accumulation of naturally occurring, obsidian pebbles. No further work was undertaken at the site.

SITE SPECIFIC BACKGROUND

As discussed above, two previously recorded prehistoric archaeological sites are identified within the project site: CA-SON-36 and CA-SON-872. One additional prehistoric archaeological site, CA-SON-1941, is recorded adjacent to the project site.

CA-SON-36 is situated on the northeast side of State Route 12, approximately one mile east of the Oakmont and Pythian Road/Los Guilicos intersection. The original site record locates the site along an unnamed creek immediately to the west of the project site boundary, approximately 450 meters northeast of State Route 12. However, during a survey of the project site in 2000,¹⁶ surficial cultural materials were noted within the current project site boundary. Limited subsurface testing (consisting of hand auger bores) recorded subsurface cultural materials, mostly flaked obsidian, within the project site boundary. Most of the cultural materials were found along the dirt access road that is proposed to be improved as the main access to the proposed development.

CA-SON-872 is reported to be on a plateau overlooking State Route 12 and the valley below. It lies in the area where the buildings of the proposed *Sonoma Country Inn* project would be constructed. The site was originally described as a sparse lithic scatter, but subsequent investigations (including this one) failed to identify a cultural deposit.

Since CA-SON-872 could not be located, and the potential for a significant subsurface cultural deposit was very low, subsurface investigations conducted by Pacific Legacy focused on CA-SON-36. The investigation at CA-SON-36 had two goals: to describe the nature and characteristics of the site, and to evaluate its integrity and research potential. Although CA-SON-36 is officially recorded outside the present boundary of the project site, surface artifacts and previous testing show that it extends into the southwestern portion of the project site. It is critical to note, however, that excavation was only conducted in the portion of CA-SON-36 within the 186-acre *Sonoma Country Inn* project site. Therefore, this evaluation of CA-SON-36 only pertains to that portion of the site within the project site. Management and research objectives at CA-SON-36 include defining the attributes of the cultural resource that extends into the project site, and assessing its importance in order to determine whether it is a Historical Resource for the purposes of CEQA.

¹⁶ *A Cultural Resources Evaluation of the Auberge Resorts Project Within the Graywood Ranch*, Kenwood, Sonoma County, California. E. Strother, 2000, Report S-23412, on file at the Northwest Information Center, Sonoma State University.

Archaeological studies conducted as a part of the preparation of this EIR at CA-SON-36 entailed the excavation of three control units and 34 shovel probes, for a total excavated sediment volume of 10.9 cubic meters. Although flakes were found at the bottom of the units, they were relatively few in number, and it appears that excavations identified the bottom of the cultural deposit. The bulk of the cultural deposit appears to lie between the surface and roughly 50 centimeters below surface (cmbs), in a relatively homogenous unit of alluvial clay loam with varying amounts of gravel. Though a large area was tested, the site clearly extends from the access road to the west toward the creek and outside the project site, south to State Route 12, and east and northeast into the open field covering the southern half of the project site. A concentration of cultural materials was noted along the private access road leading onto the project site. This concentration is centered around the site datum, roughly 100 meters north of State Route 12.

The collection from CA-SON-36 consists of 593 items. All of these are flaked stone except for two historic items and three radiocarbon (charcoal) samples. Fully 99.5 percent of the flaked stone assemblage is obsidian, and 99.1 percent is debitage. Retouched pieces are limited to four biface fragments and one bifacial drill. Although cultural materials were found to a depth of 110-130 cmbs, there was no evidence of stratification. Cultural materials are distributed through the depth of the deposit, with a single broad peak between 0-50 centimeters below datum (cmbd), and a gradual decline to ca. 100 cmbd.

The lithic analysis shows that the site is not particularly noteworthy in the quantity of formal tools or in terms of technological activities. An analysis of all 579 pieces of obsidian debitage shows that the flake assemblage is highly fragmented, but does contain a range of flake types, including bifacial flakes and flakes attributable to early stage reduction. As expected, the flaked stone assemblage is dominated by Annadel obsidian, the source of which lies within 20 kilometers of the site. Despite the close proximity of the source, however, evidence of primary decortification, with a high frequency of completely cortical flakes, is not present. Based on the analysis of tools and debitage, a variety of tool production and use activities took place at the site. However, the assemblage is dominated by the reduction of small obsidian nodules and the production of bifaces.

Given the lack of cultural and natural stratigraphy, it appears that the cultural deposit at CA-SON-36 suffers from severe post-depositional disturbance. The upper 30 centimeters has been disturbed by recent construction activity, particularly in units closer to the private driveway. The compact sediments and the presence of road gravels demonstrate this. Numerous rodent burrows were encountered in both the control units and shovel probes, at all depths. Field investigations at CA-SON-36 show that the site has been disturbed to varying degrees, and cultural materials have been displaced both horizontally and vertically. This disturbance is attributable to both modern construction activities (for instance agriculture and the construction of the private access road) and natural factors, specifically bioturbation. Aside from problems in integrity, CA-SON-36 also produced minimal types of information. Each unit produced a limited amount of debitage, few formed tools and no features. The lack of substantial diagnostic artifacts and indicators of site function and on-site activities make it impossible to address broader regional questions of adaptation and culture change. Based on the tested area within the project site, CA-SON-36 has limited potential to address regional research issues. Given its limited data potential and poor integrity, Pacific Legacy has concluded that the portion of CA-SON-36 evaluated is not eligible for inclusion in the CRHR, and is not a significant historical or archaeological resource as defined in the *State CEQA Guidelines*.

Regulatory compliance for CEQA evaluation generally requires investigation and evaluation of entire archaeological sites rather than just those portions that may be affected by an undertaking. The rationale for this protocol is to ensure that sites are not incrementally degraded over time through numerous undertakings that evaluate only small site portions, which, by themselves, may not appear to

stand as CRHR eligible on their own merits. This argument assumes that the whole of a site is greater than the sum of its parts, and that the portion of a site affected by an undertaking may increase in importance when evaluated within a larger site context.

CA-SON-36 as expressed within the project site is restricted both in terms of overall size and the diversity of cultural materials. The site clearly extends an unknown distance beyond the *Sonoma Country Inn* project site onto the adjacent *Graywood Ranch Subdivision* site. This portion of CA-SON-36, on the *Graywood Ranch Subdivision* site, was not included in this evaluation study. It is recommended that additional field research be conducted to better define the extent of cultural materials on the *Graywood Ranch Subdivision* site and further explore the possibility that artifact-rich archaeological components described by others¹⁷ are present if it is determined that development of the *Graywood Ranch Subdivision* will have an impact on CA-SON-36. Cultural deposits not examined during this study may contain a greater range of information than that recovered in the test excavations for this EIR. If so, the CRHR eligibility of CA-SON-36 should be revisited for that portion of the site reported to be within the *Graywood Ranch Subdivision* site.

Cultural Resources – Significance Criteria

The cultural resources analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant cultural resources impact if it:

- x Caused a substantial adverse change in the significance of an historical resource;
- x Caused a substantial adverse change in the significance of an archaeological resource; or
- x Disturbed any human remains, including those interred outside formal cemeteries.

The definitions of substantial adverse change, historical resource, and archaeological resource are defined below:

Substantial adverse change is defined as:

- x Physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
- x Demolition or material alteration in an adverse manner of those physical characteristics of an historical resource which convey its historical significance and justify its inclusion in or eligibility for inclusion in the California Register of Historical Resources (CRHR), inclusion in a local register, or identification in a historical resources survey.

Historical resource is defined as:

¹⁷ *A Cultural Resources Evaluation of the Approximate 100-Acre Portion of the Graywood Ranch, Located at 7935 Sonoma Highway, Kenwood, Sonoma County, California*, Archaeological Resource service, 2001, Report S-23792 on file at the Northwest Information Center, Sonoma State University and *Archaeological Survey and Evaluation of Development Plans for Graywood Ranch near Kenwood, Sonoma County*, K. Flynn, Report S-12834 on file at the Northwest Information Center, Sonoma State University.

- x A resource listed in or determined to be eligible by the State Historical Resources Commission for listing in the California Register of Historical Resources (mandatory significance).
- x A resource included in a local register of historical resources or identified as significant in an historical resource survey unless the preponderance of evidence suggests it is not significant (presumptive significance).
- x An historical resource still may be considered significant in the absence of a Federal, State, or local listing if substantial evidence demonstrates its significance (discretionary significance). This includes any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Generally, a resource shall be historically significant if it:
 - Is associated with events which made a significant contribution to the broad patterns of California’s history and cultural heritage.
 - Is associated with the lives of people important in our past.
 - Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values.
 - Has yielded or may be likely to yield information important in prehistory or history.

Archaeological Resource

The *State CEQA Guidelines* state that CEQA applies to effects on archaeological sites and direct that, when a project would impact an archaeological site, the lead agency should first determine whether the site is an historic resource as defined immediately above or whether it meets the definition of a “unique archaeological resource” contained in Section 21083.2 of the Public Resources Code. “Unique archaeological resource” refers to an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability it:

- x Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- x Has a special and particular quality such as being the oldest or best available example of its type.
- x Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Cultural Resources – Impacts and Mitigation

Construction of the proposed project may include ground disturbing activities that could result in the loss of integrity of cultural deposits, the loss of information and the alteration of site setting to cultural resources that may be potentially eligible for listing on the CRHR. Thus, degradation of the cultural resources would be considered a substantial adverse change, if the resources were considered eligible for the CRHR, or if the resources were unique archaeological resources. The fieldwork and laboratory

analysis of the sites, and CA-SON-36 in particular, were designed to provide the data needed to assess the significance of the cultural resources in the project site, that is, whether they are historical or archaeological resources as defined in CEQA. The research value and significance of CA-SON-36 is discussed below. Since it appears that CA-SON-872 no longer exists, it is not considered in the following discussion.

Background research and Native American consultation revealed no evidence that CA-SON-36 is associated with events that made a significant contribution to the broad patterns of California's history and cultural heritage. Furthermore, the site does not appear to be associated with persons recognized as important at the national, state, or local level. That portion of CA-SON-36 evaluated is a prehistoric archaeological site devoid of above ground structures, rock art, or even a prominent midden deposit. The site is not an outstanding example of a prehistoric archaeological deposit in the Sonoma Valley, where the landscape is covered by a patchwork of lithic scatters. The site is inconspicuous and not easily perceived as an archaeological resource to the untrained eye (e.g., to the public), and does not embody the distinctive characteristics of a type, period, region, or method of construction.

CA-SON-36, however, may contain information important in understanding prehistory. Therefore, the only possible criterion under which the site might be considered eligible for the CRHR is the final criterion discussed listed in the previous section.

Field investigations at CA-SON-36 as a part of the preparation of this EIR show that the site has been disturbed to varying degrees, and cultural materials have been displaced both horizontally and vertically. This disturbance is attributable to both modern construction activities (e.g., agriculture and the construction of the private access road) and natural factors, specifically bioturbation. Aside from problems in integrity, CA-SON-36 also produced minimal types of information. Each unit produced a limited amount of debitage, few formed tools, and no features. The lack of substantial diagnostic artifacts and indicators of site function and on-site activities make it impossible to address broader regional questions of adaptation and culture change. Based on the tested area within the project site, CA-SON-36 has limited potential to address regional research issues. Given its limited data potential and poor integrity, it is concluded that CA-SON-36 is not eligible for inclusion in the CRHR, and is not a significant historical or archaeological resource as defined in the *State CEQA Guidelines*.

Since neither that portion of CA-SON-36 investigated nor CA-SON-872 qualify as historical or archaeological resources it is concluded that no significant impacts would occur as a result of project construction or operation. No mitigation measures would be necessary. This would be subject to change, however, if the proposed project is altered to include untested and unsurveyed areas, or if unanticipated cultural materials are discovered during construction.

Although unlikely, there is always the potential for buried or otherwise obscured resources. The prehistoric and protohistoric indicators of prior cultural occupation by Native Americans include artifacts and human bone, as well as soil discoloration, shell, animal bone, cobbles, ashy areas, and baked or vitrified clays. Prehistoric materials may include:

- x Human bone – either intact burials or isolated bones – including teeth or fragmentary pieces of bone;
- x Habitation debris, including occupation or ceremonial structures as inferred from rock rings/features, distinct ground depressions, and differences in sediment compaction (e.g., house floors);

- x Artifacts, including: chipped stone objects like flakes, projectile points and bifaces; groundstone objects like manos, metates, mortars, pestles, grinding stones, and pitted hammerstones; and shell and bone artifacts like ornaments and beads (NOTE: ornaments and beads were often buried with deceased individuals and must be considered as potentially indicative of human remains);
- x Various features, including: hearths (with oxidized soil, fire-cracked rock and baked or vitrified clay), artifact caches, faunal and shellfish concentrations (which permit dietary reconstruction), and distinctive changes in sediment composition and stratigraphy indicative of prehistoric activities.

Though less likely in the project site, potential historic period cultural materials include finds from the eighteenth through early twentieth centuries that can be attributed to Euro-American, Hispanic, and other groups. Objects and features often associated with Historic period activities can include:

- x Structural remnants or portions of foundations (e.g., bricks, cobbles/boulders, stacked field stone, and postholes);
- x Trash pits, privies, wells, and associated artifacts/deposits;
- x Isolated clusters of manufactured artifacts (e.g., glass bottles, metal cans, and manufactured wood items);
- x Human remains.

Impact 5.9-1 Potential Subsurface Resources

While no discernible impacts to archaeological resources or human remains are anticipated, the possibility cannot be precluded that prehistoric cultural deposits and features are present below the ground surface and could be damaged during land alteration activities. This would be a potentially significant impact.

CA-SON-36 was found not to be a significant resource and CA-SON-872 could not be located. Therefore impacts to archaeological resources would be less-than-significant. One additional prehistoric archaeological site, CA-SON-1941, is recorded outside the project site, but may extend into the project site. No development is proposed in this area and therefore the site would be avoided if it indeed exists.

However, future ground disturbing activities may reveal previously unidentified buried or otherwise obscured archaeological deposits. Such disturbance may result in the loss of integrity of cultural deposits and the loss of information if these deposits do exist. Potential buried cultural remains include prehistoric and/or historic resources.

Mitigation Measure 5.9-1 The following mitigation measures would be required to mitigate potential significant impacts related to cultural resources:

- (1) Workers involved in ground disturbing activities shall be trained in the recognition of archaeological resources (e.g., historic and prehistoric artifacts typical of the general area), procedures to report such discoveries, and other appropriate protocols to ensure that construction activities avoid or minimize impacts to potentially significant cultural resources.
- (2) If cultural deposits are encountered at any location, halt construction in the vicinity and consult a qualified archeologist and the Native American community. The archeologist shall conduct an

independent review of the find, with authorization of and under direction of the County. Prompt evaluations should be made regarding the significance and importance of the find and a course of action acceptable to all concerned parties should be adopted.

If mitigation is required, preservation in place is the preferred manner of mitigating impacts to archaeological sites. This may be accomplished by, but not limited to: 1) Planning construction to avoid archeological sites; 2) Incorporation of sites within parks, greenspace, or other open space; 3) Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site; 4) Deeding the site into a permanent conservation easement.¹⁸

When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Data recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information, provided that information is documented in the EIR and the studies are deposited with the California Historical Resources Regional Information Center.¹⁹

- (3) In the event of an accidental discovery or recognition of any human remains, the following steps should be taken as per *State CEQA Guidelines* 15064.5(e): There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until (A) the coroner of the county is contacted to determine that no investigation of the cause of death is required, and (B) the coroner determines whether the remains are Native American. If the remains are Native American the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC shall identify the person or persons it believes to be the most likely descended from the deceased Native American. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of (with appropriate dignity) the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.

If the event the NAHC is unable to identify a most likely descendent, or the most likely descendent failed to make a recommendation within 24 hours after being notified by the NAHC, or the landowner or his authorized representative rejects the recommendation of the descendent and the mediation by the NAHC fails to provide measures acceptable to the landowner, then the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

Significance after Mitigation Implementation of Mitigation Measure 5.9-1 would reduce potential impacts to a less-than-significant level.

Responsibility and Monitoring The applicant would be responsible for including this measure in the contracts of all contractors engaged in applicant-implemented construction and in the residential

¹⁸ This is discussed in more detail in Section 15126.4(b)(3)(B) of the *CEQA Guidelines*.

¹⁹ This is discussed in more detail in Section 15126.4(b)(3)(C) and (D) of the *CEQA Guidelines*.

development's CC&Rs to require implementation by the project applicant. Implementation would be monitored on a case-by-case basis by the consulting archaeologist(s) retained to evaluate artifacts, determine whether or not discovered resources meet CEQA significance criteria, and, if needed, identify the additional measures required to mitigate impacts on cultural resources. In the event that prehistoric archaeological resources are discovered, local Native American organizations should be consulted and involved in making resource management decisions. All applicable State and local requirements concerning the handling and disposition of archaeological finds should be strictly enforced.

5.10 AIR QUALITY

Air Quality – The Setting

The Initial Study for this project concluded that the project would have less-than-significant impacts in the following areas:

- Conflict with air quality plan;
- Violate air quality standards or contribute to an existing or projected air quality violation;
- Result in cumulatively considerable net increase of any criteria pollutant for the project region; and
- Create objectionable odors.

The Initial Study also concluded that the project would have a less-than-significant impact with mitigation incorporated:

- Expose sensitive receptors to substantial pollutant concentrations (due to construction dust).¹

Public comments during the scoping process expressed concerns about air quality impacts of the proposed *Sonoma Country Inn* project, especially related to increased traffic associated with the project. In response, the County expanded the focus of the EIR to address the following air quality issues:

- Construction Period Air Quality Impacts
- Project Carbon Monoxide Impacts
- Regional Emissions
- Woodburning Emissions

AIR POLLUTION CLIMATOLOGY

The project site is located at the northern end of the Sonoma Valley. The Sonoma Valley is a long, narrow valley running north-south between the Sonoma Mountains on the west and the taller Mayacamas Mountains to the east. Because the valley is sheltered from direct sea breezes, winds are lighter than in most parts of the San Francisco Bay Area. Winds tend to be from the south during the day and from the north during the night.

The air pollution potential of the Sonoma Valley is high. Prevailing wind can transport locally and regionally generated pollutants northward into the narrow valley, which often traps and concentrations

¹ *Sonoma Country Inn Environmental Checklist Form*, County of Sonoma, April 26, 2002.

the pollutants under stable conditions. The local upslope (southerly) and downslope (northerly) flows set up by the surrounding mountains may also recirculate pollutants.

AMBIENT AIR QUALITY STANDARDS

The federal and California state ambient air quality standards are summarized in Exhibit 5.10-1 for important pollutants. The federal and state ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and PM₁₀ (particulate matter, ten micron)..

**EXHIBIT 5.10-1
 FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS**

<i>Pollutant</i>	<i>Averaging Time</i>	<i>Federal Primary Standard</i>	<i>State Standard</i>
Ozone	1-Hour 8-Hour	0.12 ppm 0.08 ppm	0.09 ppm --
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	0.05 ppm --	-- 0.25 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm --	-- 0.05 ppm 0.5 ppm
PM ₁₀	Annual 24-Hour	50 ug/m ³ 150 ug/m ³	30ug/m ³ 50 ug/m ³
PM _{2.5}	Annual 24-Hour	15 ug/m ³ 65 ug/m ³	-- --
Lead	30-Day Avg. Month Avg.	-- 1.5 ug/m ³	1.5 ug/m ³ --

ppm = parts per pillion

ug/m³ = Micrograms per Cubic Meter

AIR POLLUTANTS OF CONCERN IN SONOMA COUNTY

The federal and California state ambient air quality standards cover a wide variety of pollutants. Only a few of these pollutants are problems in Sonoma County either due to the strength of the emission or the climate of the region. The closest air monitoring site to the project site is located in Santa Rosa. Exhibit 5.10-2 summarizes violations of air quality standards in Santa Rosa for the five-year period 1997-2001. Ozone and particulate matter are the two air pollutants of greatest concern in Sonoma County.

EXHIBIT 5.10-2
AIR QUALITY DATA SUMMARY FOR SANTA ROSA, 1997-2001

<i>Pollutant</i>	<i>Standard</i>	<i>Days Standard Exceeded In:</i>				
		<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>
Ozone	Federal 1-Hour	0	0	0	0	0
Ozone	State 1-Hour	0	0	1	0	0
Ozone	Federal 8-Hour	0	0	0	0	0
PM ₁₀	Federal 24-Hour	0	0	0	0	0
PM ₁₀	State 24-Hour	2	1	1	0	2
PM _{2.5}	Federal 24-Hour	-	-	0	0	1
Carbon Monoxide	State/Federal 8-Hour	0	0	0	0	0
Nitrogen Dioxide	State 1-Hour	0	0	0	0	0

Source: Air Resources Board, Aerometric Data Analysis and Management (ADAM), 2002.

Ozone Ground level ozone, often referred to as smog, is not emitted directly, but is formed in the atmosphere through complex chemical reactions between nitrogen oxides (NO_x) and reactive organic gases (ROG) in the presence of sunlight. The principal sources of NO_x and ROG, often termed ozone precursors, are combustion processes (including automobiles) and evaporation of solvents, paints, and fuels. Motor vehicles are the single largest source of ozone precursor emissions in Sonoma County. Exposure to ozone can cause eye irritation, aggravate respiratory diseases, and damage lung tissue, as well as damage vegetation and reduce visibility.

Particulate Matter (PM₁₀ and PM_{2.5})

Particulate matter includes a wide range of solid or liquid particles, including smoke, dust, aerosols, and metallic oxides. There are many sources of particulate matter emissions, including combustion, industrial processes, grading and construction, and motor vehicles. Of the particulate matter emissions associated with motor vehicle use, some are tailpipe and tire wear emissions, but greater quantities are generated by re-suspended road dust. Consequently, improvements in motor vehicle engines and fuels have not reduced particulate matter emissions as significantly as they have reduced emissions of other pollutants.

Wood burning in fireplaces and stoves is a significant source of particulate matter, particularly during cold, stagnant wintertime episodes when levels are highest.

Health effects of particulate matter vary depending on a number of factors, including the type and size of particle. Research has shown a correlation between high inhalable particulate matter (PM₁₀) concentrations and increased mortality rates. Elevated levels can also aggravate chronic respiratory illness such as bronchitis and asthma. Fine particulate matter (PM_{2.5}) is a concern because it can bypass the body's natural filtration system more easily than larger particles, and can lodge deep in the lungs.

SENSITIVE RECEPTORS AND POLLUTION SOURCES

Sensitive receptors are facilities where sensitive receptor population groups (children, the elderly, the acutely ill, and the chronically ill) are likely to be located. These land uses include residential areas, schools, retirement homes, convalescent homes, hospitals, and medical clinics. The closest sensitive receptors to the project site are residences along State Route 12 (SR 12) and Adobe Canyon Road.

Air Quality – Significance Criteria

The air quality analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant air quality impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

The project site is located within the jurisdictional boundary of the Bay Area Air Quality Management District (BAAQMD).² Based on the *BAAQMD CEQA Guidelines* the project would have a significant impact based on the following criteria:³

- A significant impact on *local* air quality is defined as an increase in carbon monoxide concentrations that causes a violation of the most stringent ambient air quality standard for carbon monoxide (20 parts per million [ppm] for the one-hour averaging period, 9.0 ppm for the eight-hour averaging period).
- A significant impact on *regional* air quality is defined as an increase in emissions of an ozone precursor or PM₁₀ exceeding the BAAQMD thresholds of significance. The current significance thresholds are 80 pounds per day (or 15 tons/year) for ozone precursors or PM₁₀.
- Any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact.

² Sonoma county is part of two distinct air basins and air districts. The northwestern portion of the county is in the Northern Sonoma County Air Pollution Control District (NSCAPCD). Southern Sonoma County is part of the Bay Area Air Quality Management District (BAAQMD). The project site is within the BAAQMD.

³ *BAAQMD CEQA Guidelines – Assessing the Air Quality Impacts of Projects and Plans*, Bay Area Air Quality Management District, April 1996, revised December 1999.

- Any project with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact.

The BAAQMD significance threshold for construction dust impacts is based on the appropriateness of construction dust controls. The BAAQMD guidelines provide feasible control measures for construction emission of PM₁₀. If the appropriate construction controls are to be implemented, then air pollutant emissions for construction activities would be considered less-than-significant.

This EIR uses the BAAQMD significant criteria as a further refinement of the air quality criteria from the *State CEQA Guidelines*.

Air Quality – Impacts and Mitigation

Impact 5.10-1 Construction Period Air Quality Impacts

Dust generation from short-term construction activities would cause potential health and nuisance impacts to adjacent land uses. This would be a short-term significant impact.

Construction dust could affect local air quality at various times during construction of the proposed project. The dry, windy climate of the area during the summer months creates a high potential for dust generation when and if underlying soils are exposed to the atmosphere. Clearing, grading, and earthmoving activities have a high potential to generate particulate matter and dust whenever soil moisture is low and particularly when the wind is blowing.

Mitigation Measure 5.10-1 Dust emissions from construction activities would be greatly reduced by implementing fugitive dust control measures. BAAQMD CEQA guidelines provide that the significance of construction impacts to air quality is based on the control measures that would be implemented. According to BAAQMD CEQA guidelines, implementation of the measures listed below would reduce the dust impacts associated with grading and new construction to a less-than-significant level.

As a condition of County approval of any site alteration or grading permit for the inn/spa/restaurant, the winery, or the residential subdivision, the applicant shall incorporate the following dust control measures in the projects that would disturb the ground:

- (1) Water all active construction areas at least twice daily and more often during windy periods. Active areas adjacent to residences should be kept damp at all times.
- (2) Cover all hauling trucks or maintain at least two feet of freeboard.
- (3) Pave, apply water at least twice daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas.
- (4) Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas and sweep streets daily (with water sweepers) if visible soil material is deposited onto the adjacent roads.
- (5) Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas that are inactive for ten days or more).

- (6) Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles.
- (7) Limit traffic speeds on any unpaved roads to 15 miles per hour.
- (8) Replant vegetation in disturbed areas as quickly as possible.
- (9) Suspend any activities that cause visible dust plumes that cannot be controlled by watering.
- (10) Install wheel washers for all exiting trucks or pave project site entrance road prior to initiating construction of the inn or winery.

As a condition of County approval of any site alteration or grading permit, the following measures would be implemented during development of individual residential lots:

- (1) Water all active construction areas at least twice daily and more often during windy periods. Active areas adjacent to residences should be kept damp at all times.
- (2) Enclose, cover, water twice daily, or apply (non-toxic) soil binders to exposed stockpiles.
- (3) Replant vegetation in disturbed areas as quickly as possible.
- (4) Suspend any activities that cause visible dust plumes, which cannot be controlled by watering.

A note shall be placed on the final map indicating that grading permits and building permits with land disturbance shall include dust control measures required by the *Sonoma Country Inn EIR* air quality section.

Significant After Mitigation Implementation of Mitigation 5.10-1 would reduce project impacts to a less-than-significant level.

Responsibility and Monitoring The applicant would be responsible for incorporating Mitigation Measure 5.10-1 in the contracts of contractors or subcontractors performing applicant-implemented construction. Individual lot owners subsequently would be responsible for short-term construction on their lots.

Impact 5.10-2 Project Carbon Monoxide Impacts

Traffic generated by the proposed project would contribute to local carbon monoxide concentrations. This impact would be less-than-significant.

The proposed project would produce new automobile trips, generating emissions of air pollutants, which could affect both regional and local air quality. On the local scale the pollutant of greatest interest is carbon monoxide. Concentrations of this pollutant are related to the levels of traffic and congestion along streets and at intersections.

A screening form of the CALINE-4 computer simulation model was applied to two signalized intersections near the project site (SR 12/Oakmont Drive and SR 12/Pythian Road), selected as having the highest potential for carbon monoxide based on volume and delay. Peak Sunday afternoon volumes were utilized in the analysis. The screening method and the assumptions made in its use are described in Appendix 8.7.

The results of the CALINE-4 modeling for the two selected intersections are shown in Exhibit 5.10-3. Concentrations are shown for six scenarios:

- Existing (2002) traffic
- Year 2005 baseline traffic
- Year 2005 baseline traffic plus project traffic
- Year 2005 baseline traffic plus project traffic plus special event traffic
- Year 2005 baseline traffic plus project traffic plus special events traffic at all area wineries
- Year 2012 cumulative traffic plus project traffic plus special events traffic at all area wineries

**EXHIBIT 5.10-3
 PREDICTED WORST-CASE CARBON MONOXIDE CONCENTRATIONS AT SELECTED
 INTERSECTIONS, IN PARTS PER MILLION**

	<i>SR 12/Pythian Road</i>		<i>SR 12/Oakmont Drive</i>	
	<i>1-Hour</i>	<i>8-Hour</i>	<i>1-Hour</i>	<i>8-Hour</i>
Existing (2002)	4.2	3.1	4.6	3.4
Baseline (2005)	3.6	2.7	4.0	2.9
Baseline plus Project traffic (2005)	3.7	2.7	4.0	2.9
Baseline plus Project traffic plus special events traffic (2005)	3.7	2.7	4.0	2.9
Baseline plus Project traffic plus special events traffic at all area wineries (2005)	3.8	2.8	4.2	3.1
Year 2012 cumulative traffic plus Project traffic plus special events traffic at all area wineries	3.4	2.4	3.7	2.7
Most Stringent Standard	20.0	9.0	20.0	9.0

Source: Donald Ballanti

The concentrations shown in Exhibit 5.10-3 are to be compared to the state and federal ambient one-hour air quality standards of 20 PPM and 35 PPM. Predicted eight-hour concentrations in Exhibit 5.10-3 are to be compared to the state and federal eight-hour standards of nine PPM.

Existing concentrations and year 2005 background concentrations meet all ambient air quality standards. The addition of traffic from the proposed project would increase concentrations by 0.1 PPM or less, and concentrations would remain well below the applicable standards. Future cumulative concentrations would be below current levels, due to the gradual decrease in emission rates and background levels as older, more polluting vehicles are replaced with cleaner vehicles over time. As a result, the impact on local air quality resulting from the proposed project would be less-than-significant.

Mitigation Measure 5.10-2 No mitigation would be necessary.

Impact 5.10-3 Regional Emissions

New traffic generated by the proposed project and on-site area sources would increase regional emissions. This impact would be less-than-significant.

New emissions from the proposed project would be direct and indirect. Direct emissions consist of emissions from on-site combustion for space- and water-heating, fireplace use, and other minor sources. Maintenance equipment and vehicles would create additional emissions. The overwhelming source of emissions would be indirect, i.e., related to vehicle traffic generated by project land uses.

The URBEMIS-7G model was used to calculate emissions from all trips to or from the project site. This program and the assumptions made in its use are described in Appendix 8.7.

Daily emissions associated with the project are shown in Exhibit 5.10-4. Pollutants shown include reactive organic gases (ROG) and oxides of nitrogen (NO_x) (two precursors of ozone) and PM₁₀. Emissions associated with the proposed project would not exceed the BAAQMD thresholds of significance for ozone precursors or PM₁₀, so the project would have a less-than-significant impact on regional air quality.

**EXHIBIT 5.10-4
 PROJECT REGIONAL EMISSIONS IN POUNDS PER DAY**

	Reactive Organic Gases	Nitrogen Oxides	PM₁₀
Project New Daily Vehicle Emissions	11.0 pounds	9.9 pounds	5.3 pounds
BAAQMD Threshold	80.0 pounds	80.0 pounds	80.0 pounds

Source: Donald Ballanti

Mitigation Measure 5.10-3 No mitigation would be necessary.

Impact 5.10-4 Wood Burning Emissions

Wood burning fireplaces could contribute to particulate emissions exceedances. This impact would be potentially significant.

Wood smoke from fireplaces and wood stoves are sources of pollutants receiving increasing scrutiny in the past few years.⁴ Wood smoke has generated numerous complaints to the BAAQMD. Although constituting a very small percentage of the total PM₁₀ emissions on an annual basis, wood smoke is a major contributor to reduced visibility and reduced air quality on winter evenings in both urban and rural areas.⁵

⁴ The project applicant's project description does not state whether gas or wood burning fireplaces would be permitted in the residences, the cottages or in other on-site structures. As a part of this analysis wood burning fireplaces have been assumed.

⁵ Sonoma County PRMD staff conversation with Tommy Mayfield, Air Quality Planner, Bay Area Air Quality Management District, September 2002.

The project site is located within a narrow valley surrounded by elevated terrain. During winter evenings, when wood-burning would normally be at a maximum, the area would be subject to frequent calms and very stable conditions that restrict the dilution of pollutants. This would be a potentially significant impact.

Mitigation Measure 5.10-4 A note shall be placed on the final map that states that only natural gas fireplaces, pellet stoves, or EPA-Certified wood-burning fireplaces or stoves, shall be allowed in the residences and only natural gas fireplaces shall be allowed in the inn/spa/restaurant and the winery. Conventional open-hearth fireplaces should not be permitted. Prior to recording the final map a statement shall be included in the project's CC&Rs stating that only natural gas fireplaces, pellet stoves, or EPA-Certified wood-burning fireplaces or stoves shall be allowed in the residences.

Significance After Mitigation EPA-Certified fireplaces and fireplace inserts are 75 percent effective in reducing emissions from this source, while natural-gas fireplaces are nearly 100 percent effective in reducing emissions and have virtually no potential for odor or nuisance. Implementation of Mitigation 5.10-4 would reduce project impacts to a less-than-significant level.

Responsibility and Monitoring Prior to building permit issuance County staff shall confirm that only natural gas fireplaces, pellet stoves, or EPA-Certified wood-burning fireplaces or stoves shall be included in the residences and only natural gas fireplaces shall be included in the inn/spa/restaurant and the winery.

Impact 5.10-5 Odors

The accidental release of hydrogen sulfide from the proposed wastewater pretreatment facilities would be a significant impact.

Wineries seasonally generate odors associated with fermentation of fruit. These odors are relatively short-lived, mild, and quite common within grape growing areas. They do not have the potential to frequently expose members of the public to objectionable odors, and thus would represent a less-than-significant impact.

The operational impacts of the proposed wastewater pretreatment facilities include impacts from odors. The individual package plants are designed so that the wastewater effluent is treated in an aerobic environment, meaning oxygen is present as the wastewater is being treated. When functioning properly, aerobic treatment systems do not give off a strong or offensive odor; however, if the system were to become anaerobic (due to improper operation or a system malfunction), hydrogen sulfide could be produced, and an unpleasant "rotten egg" odor could be emitted. In addition, the presence of hydrogen sulfide in a confined space (such as in a building housing the package plant) could pose a significant health threat to individuals entering the space. The accidental release of hydrogen sulfide from the package plants would be a significant impact.

Mitigation Measure 5.10-5 To mitigate possible impacts from the accidental release of hydrogen sulfide from the individual package treatment plants, gases and odors shall be contained in an underground collection and dispersal system or scrubbed with passive or active air quality filters (for example, carbon filters). The package plants shall be enclosed or placed underground to further control odors. To ensure the protection of operating personnel, a hydrogen sulfide/oxygen monitoring program shall be engineered and implemented, and all personnel entering confined spaces shall be required to meet all Occupational Safety and Health Administration (OSHA) standards. A qualified OSHA consultant shall review the hydrogen sulfide/oxygen monitoring program.

Responsibility and Monitoring Design of the wastewater systems shall be submitted to the County for review and approval. Building related permits shall not be issued by the County until all of the required design elements have been met.

5.11 NOISE

Noise – The Setting ¹

The Initial Study for this project concluded that the project would have less-than-significant impacts in the following areas:

- Exposing persons to or generating excessive groundborne vibration or groundborne noise levels
- Causing a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, and
- For a project within the vicinity of a private airstrip, exposing people residing or working in the project area to excessive noise levels).

The Initial Study also concluded that the project would have less-than-significant impacts in the following areas with mitigation incorporated:

- Exposing persons to, or generating noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, and
- Causing a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project). ²

Public comments during the scoping process expressed concerns about noise impact of the proposed project, especially related to the proposed special events at the winery. In response, the County expanded the focus of the EIR to address noise impacts associated with special events at the winery.

EXISTING NOISE ENVIRONMENT

The major source of noise affecting the project site and surrounding area is automobile and truck traffic on State Route 12 (SR 12) with secondary sources being aircraft, birds, insects, and leaves rustled by breezes. During some times of the year noise can be produced by farm machinery operating in the adjacent existing vineyards and by events at surrounding wineries which occasionally include the use of sound amplification.

The project site and surrounding area is generally quiet, except for locations relatively close to SR 12. Locations on parcels adjacent to the project site that could potentially be impacted by the noises of

¹ Persons not familiar with the fundamental concepts of noise measurement and analysis are referred to Appendix 8.8 for a brief introduction and definitions of the technical terms used in this section.

² *Sonoma Country Inn Environmental Checklist Form*, County of Sonoma, April 26, 2002.

events at the events pavilion³ of the proposed winery are also locations where existing ambient noise levels are relatively low.

A noise measurement was made for this EIR at one location in order to quantify the existing noise level on the project site. The measurement location is shown on Exhibit 5.11-1. The noise measurement was conducted on the morning of Wednesday, June 26, 2002. Exhibit 5.11-2 shows ambient noise levels on the project site. The ambient levels, and all other noise levels presented in this section are given in decibels (dBA). The “typical ambient” levels were measured on the project site. Experience by Sound Solutions (the EIR acoustical analyst) with other projects in similar quiet areas suggests that during some meteorological conditions noise levels could be lower than the typical levels. The “quiet ambient” levels given in Exhibit 5.11-2 are representative of such conditions.

The ambient noise levels shown in Exhibit 5.11-2 are similar to those usually found in quiet rural areas. For perspective it may be noted that the noise levels of conversational speech typically are in the range of 55 dBA to 65 dBA, and the noise levels near busy roadways in Sonoma County often range from 60 dBA to 75 dBA or more.

Noise – Significance Criteria

The noise analysis uses criteria from the *State CEQA Guidelines*. According to these criteria, the project would have a significant noise impact if it would result in:

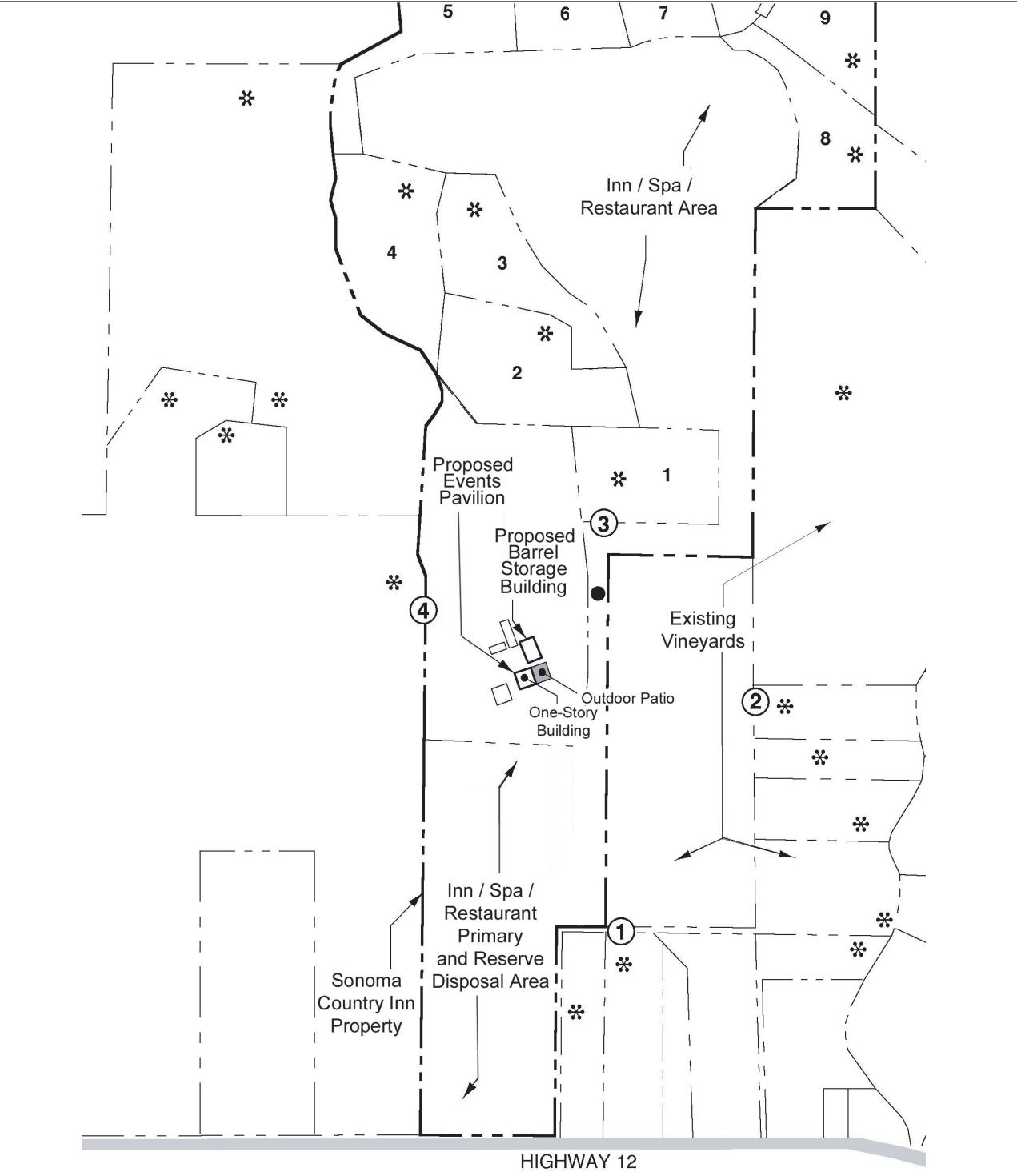
- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above existing levels without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels without the project.
- For a project within the vicinity of a private airstrip, the project would expose people residing or working in the project area to excessive noise levels.

This analysis uses the criteria contained in the *Sonoma County General Plan’s Noise Element* as a further refinement of the noise criteria from the *State CEQA Guidelines*. A significant noise impact would be identified under the following circumstances:

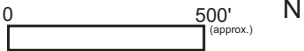
- Project-generated noise would result in noise levels in excess of exterior noise levels permitted by the *Sonoma County General Plan Noise Element* (Table NE-2 and policy NE-1c).

³ See Exhibit 3.0-15 for a layout of the winery and the proposed location of the events pavilion.

**EXHIBIT 5.11-1
NOISE -- EXISTING AND FUTURE CONDITIONS**



- * Existing Dwelling (Location Approximate)
- * Proposed Dwelling (Location Approximate)
- Ambient Sound Level Measurement Location
- ② Sound Receiving Location Discussed in Text



Source: Sound Solutions

Noise – Impacts and Mitigation ⁴

Exhibit 5.11-2 shows the noise level limits contained in the *Noise Element*.⁵ These limits apply at the property lines of and at locations within any noise sensitive areas, such as the residential parcels in the vicinity of the proposed events pavilion. As required by the *Noise Element*, the limits have been adjusted to take account of the quiet ambient conditions and the fact that the noise in question would be primarily speech and music.⁶ The *Noise Element* provides that under these conditions the noise limits are more stringent than usual.

**EXHIBIT 5.11-2
 EXISTING AND ESTIMATED NOISE LEVELS**

Sound Source or Standard	Sound receiving Location	Level (in dBA) Exceeded for Specified Cumulative Duration Out of One Hour				
		30-60 min	15-30 min	5-15 min	1-5 min	0-1 min
Typical Ambient	All	39	41	43	45	48
Quiet Ambient	All	34	35	35	37	37
Loud Amplified Music at Events Pavilion	1	50	52	54	57	61
	2	53	55	57	60	64
	3	54	56	58	61	65
	4	47	49	51	54	58
Sonoma County Limits (7 AM – 10 PM)	All	40	45	50	55	60
Sonoma County Limits (10 PM – 7 AM)	All	35	40	45	50	55

Source: Sound Solutions

Note: The Sonoma County Limits have been derived from the Table NE 2 in the Sonoma County General Plan Noise Element. They have been adjusted in accordance with the provisions in paragraphs NE-1c(2) and NE-1c(3) of the Noise Element to take into account the quiet ambient conditions (five dBA limit reduction) and the fact that the sound sources include music and speech (additional five dBA limit reduction).

⁴ Noise impacts associated with the operation of the on-site wastewater treatment facilities are discussed in *Section 5.4 Wastewater Disposal*.

⁵ *Sonoma County General Plan Noise Element*, Table NE-2, adopted by the Sonoma County Board of Supervisors, March 23, 1989.

⁶ *Sonoma County General Plan Noise Element*, policy NE-1c, adopted by the Sonoma County Board of Supervisors, March 23, 1989.

To estimate future noise levels for comparison with the county standards, four noise receiving locations were selected. Each location is noted (1 through 4) on Exhibit 5.11-1. Each location is on a property line of a residential parcel closest to the events pavilion and also along a noise path between the events pavilion and an existing or future house. Therefore locations 1 through 4 are considered noise sensitive. Other points along the project property lines are not noise sensitive since the adjacent parcels are in non-sensitive use such as agricultural use, rather than residential use. Agricultural activities would not be significantly impacted by the sound of the proposed events. The four receiving locations studied are representative of the noise sensitive areas closest to the events pavilion. Therefore, at other noise sensitive locations, levels of noise due to event activities are expected to be comparable to, or lower than noise levels at the four receiving locations analyzed. In this sense, worst case locations have been chosen for study.

Impact 5.11-1 Noise Associated with Special Events at the Winery

Outdoor music at the events pavilion could result in noise levels exceeding the Sonoma County General Plan Noise Element's noise level limits. This would be a significant impact.

The *Sonoma Country Inn* project proposes 30 special events (weddings, meetings, winemaker dinners, charitable auctions, etc.) per year with a maximum 200-person attendance. Exhibit 5.11-2 shows estimates of the noise levels which could occur if relatively loud, electronically amplified music were performed outdoors at the events pavilion. The estimates have been calculated from sound levels measured by Sound Solutions (the EIR acoustical analyst) during the performance of such music,⁷ considering such factors such as:

- Distances between the events pavilion and the receiving location.
- The attenuating effects of any forested areas between source and receiving locations.
- The attenuating effects of buildings proposed in the vicinity of the events pavilion; and
- The topography of the area.

The assumptions used in the calculations are conservative, so they may tend to overestimate noise levels at the receiving locations.

Existing ambient noise levels on the project site range from 30 to 50 dBA. The associated sound level descriptor values are below the *Noise Element's* limits. Exhibit 5.11-2 shows that for each of the four selected locations, outdoor music at the events pavilion could result in noise levels exceeding the *Noise Element's* noise level limits. This would be a significant impact.

Noise impacts could be especially noticeable in connection with events occurring after 10:00 PM because:

- The Noise Element's limits are lower after 10:00 PM (see Exhibit 5.11-2), leading to the possibility of larger discrepancies between the limits and the event noise levels, and

⁷ *Noise Impacts and Mitigation in Connection with the Proposed Entertainment Facility, Cotati, California*, Sound Solutions Report, 1426/19A, submitted to LeDoux & Associates, Inc., August 15, 1988.

- People are generally more sensitive to noise during the quiet late night hours.

Other sources of noise, which could be associated with events, are the voices of attendees and vehicles utilizing the parking areas. However, given the typical noise emissions of these sources and the distance between sources and receivers, the associated noise levels on the surrounding parcels would be expected to be below the *Noise Element's* limits.

Mitigation Measure 5.11-1 In order to reduce noise impacts from events at the events pavilion to less-than-significant levels, the following measures shall be required.

Mitigation Measure 5.11-1(a) Project approval shall establish outdoor and indoor noise limits as follows:

Noise Limits -- During outdoor events the L_{50} value during any 15 minute period of amplified sound shall not exceed 70 dBA at a distance of 50 feet from any outdoor performing group or loudspeaker. Maximum intermittent levels at such locations shall not exceed 90 dBA, and 90 dBA shall not be reached more often than once per hour.

During indoor events, the exterior L_{50} during any 15 minimum period of amplified sound shall not exceed 70 dBA at a distance of 50 feet from the outside face of any wall of the events pavilion building. Maximum intermittent levels at such locations shall not exceed 90 dBA, and 90 dBA shall not be reached more often than once per hour.

Listed below are examples of measures which are available to insure compliance with the noise level limits specified. One or more measures such as these should be selected for incorporation into the project plans as the design process continues.

- (1) Restrict loud events, and/or loud noise sources associated with events, to the interior of the building at the events pavilion. The following are examples of noise sources for which an indoor venue should be considered:
 - Pop or rock music, whether live or recorded
 - Drum sets, amplified or not
 - Electric musical instruments (for instance those which make no noise unless provided with electrical power) such as electric keyboards, guitars, and synthesizers
 - Groups with more than three brass or three reed instruments.
- (2) To ensure that the event building would provide sufficient noise reduction when needed, conditions such as the following could be applied:
 - Keep windows closed and open doors only briefly as needed to permit entry and exit during indoor events.
 - Construct the events pavilion building shell of double faced assemblies, for example stud walls with gypsum board on interior faces and plywood or cement plaster outer faces.
- (3) Provide a permanent outdoor loudspeaker system

- Outdoor levels of amplified noise could be controlled if a specially designed amplification system were installed as part of the project. The loudspeakers could be placed to minimize noise propagation to surrounding parcels, and an electronic limiter device could be included to prevent excessive levels. Event pavilion users would then be required to utilize the pavilion system, rather than a temporary system for a particular event.

(4) Sound Barriers

- Construct solid walls around the outdoor activity area at the events pavilion, creating an enclosed patio. Noise walls would help to control noise from outdoor sources at the events pavilion. To obtain substantial reductions of noise levels at the receiving locations, wall height of eight feet or more would be needed. The walls would have to comprise continuous membranes around the outdoor event area. The locations of any gaps would be chosen to minimize noise leaks toward the closest noise sensitive areas.

Mitigation Measure 5.11-1(b) All events shall be restricted to the hours between 7:00 AM and 10:00 PM

Mitigation Measure 5.11-1(c) Disclosure Statements

(1) A note shall be placed on the final map as follows:

- Outdoor events with music could occur during daytime and evening hours up to 30 times per year at the events pavilion. Noise associated with the special events may be audible in nearby residential area.

(2) The CC&R's for the residential lots shall require a disclosure at the time of sale advising of the proximity of the events pavilion and the fact that outdoor events with music could occur during daytime and evening hours up to 30 times per year.

Mitigation Measure 5.11-1(d) Monitoring Reports

- (1) During the initial 12 months of operation of the events pavilion, at least six events shall be monitored to ensure compliance with *Noise Element's* noise level limits. The events selected for monitoring shall be those which are most likely to be noisy (for instance events which include outdoor electronically amplified music). The monitoring shall be performed with a conventional noise level meter having an A-weighting filter and a "slow" response setting. In at least three cases, an independent sound engineer or consultant shall perform the monitoring. During these events, proper monitoring procedures shall be demonstrated to the event operators.

A written report of the monitoring results shall be submitted to the County Permit and Resource Management Department.

Significance After Mitigation Implementation of Mitigation Measures 5.11-1(a) through 5.11(c) would reduce noise impacts to a less-than-significant level.

Responsibility and Monitoring Prior to the issuance of a building permit for the events pavilion the applicant shall submit a plan showing how the noise limits established in Mitigation Measure 5.11-1(a) shall be met. County staff would be responsible to ensure that the necessary measures are incorporated in the building plans.

The Homeowner's Association would be responsible for implementing the disclosure statement required by Mitigation Measure 5.11-1(c).

The future operator of the events pavilion shall be responsible to implement Mitigation Measure 5.11-1(d). PRMD staff shall review the noise monitoring reports to ensure that the operation of the events pavilion is in conformance with these measures.

Impact 5.11-2 Noise from Operation of Wastewater Facilities

Operation of the wastewater pretreatment facilities could exceed the Sonoma County General Plan Noise Element exterior noise level standards, this would be a potentially significant impact.

The operational impacts of the proposed wastewater pretreatment facilities include impacts from noise. Noise from the individual package plants would be generated from the various components (such as back-up generators and blower units) of the wastewater treatment system, as well as from back-up generators used during electrical outages. The individual package plants could exceed the *Sonoma County General Plan Noise Element* exterior noise level standards, this would be a potentially significant impact.

Mitigation Measure 5.11-2 To control noise, back-up generators, and the blower units shall be enclosed or otherwise baffled for soundproofing. The system shall be designed and built to be in compliance with Table NE-2 of the *Sonoma County General Plan*.

Significance After Mitigation Implementation of Mitigation Measure 5.11-2 would reduce noise from operation of wastewater facilities to a less-than-significant level.

Responsibility and Monitoring Design of the wastewater systems shall be submitted to the County for review and approval. Building related permits shall not be issued by the County until all of the required design elements have been met, noise mitigation designs have been reviewed and approved, and an engineered monitoring program and written comments from the OSHA consultant have been submitted.

6.0 ALTERNATIVES TO THE PROPOSED PROJECT

This EIR examines four alternatives to the project as presently proposed – the “no development” alternative, an alternative consistent with the current *Sonoma County General Plan* designations, an alternative with a reduced sized inn with the winery and special events and an alternative with a reduced sized inn but without the winery and any special events..

The alternatives were formulated to provide a realistic and representative range of potential use and development concepts for the site. The principal criterion for selecting the alternatives studied in the EIR was to ensure that the range of concepts evaluated would be sufficient to provide information to the public and public officials to make decisions about the project.

An EIR conceivably can analyze an infinite number of alternatives or variations on alternatives. However, CEQA directs EIRs to analyze a reasonable range of alternatives to the project or project location which could feasibly attain basic project objectives and would avoid or substantially lessen any of the significant effects of the proposed project. The analysis of a range of alternatives is governed by a “rule of reason”. In order for the analyses to be meaningful for readers, the alternatives also must be distinctly different and readily discernible in order to distinguish between their effects and determine the environmentally preferred alternative.

6.1 ALTERNATIVE 1 -- NO PROJECT ALTERNATIVE

Section 15126.6(e) of the *State CEQA Guidelines* requires every EIR to evaluate a “no project” alternative. The purpose of describing and analyzing a no project alternative is to “allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project”. “If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the “no project” alternative is the circumstance under which the project does not proceed.”

According to Section 15126.6 the “no project” alternative shall discuss the existing conditions as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

The 476.49 acre Graywood Ranch includes the proposed project and the proposed six-lot Graywood Ranch subdivision. If the proposed project were not approved, reasonably foreseeable development on the project site could involve construction of up to 11 homes in accordance with the residential density. Residential density in the Diverse Agriculture zoning district allows for the development of homes as mapped in Acres per Dwelling Unit. In this case the residential density on the Diverse Agriculture 17 acre density portion of the project site (approximately 287.17 acres after subtraction of the 25 acres zoned Recreation and Visitor Serving Commercial and the 164.32 acres zoned Resources and Rural Development) would allow 16 homes. It is assumed that the six lot development of the Graywood Ranch subdivision on the western portion of the site would be approved, and the remaining ten homes would be built on the Diverse Agriculture portion of the site. Assuming some type of sewage disposal system could be developed, another home could be built on the 164.32 acre Resources and Rural Development portion of the site, bringing the total residential development potential of the site to 11 homes.

General Plan Policy LU14-r allows for an additional “residual parcel” which could be developed with a home. It is assumed for purposes of this analysis that this additional home would only be permitted on the site with the approval of the subdivision.

Although the No Project Alternative would meet some of the applicant’s objectives for the proposed *Sonoma Country Inn* project, it would not meet the applicant’s objectives to construct a high quality 50-room inn, spa, winery, and residential complex that is substantially in compliance with intended uses identified in the *Sonoma County General Plan* and Zoning Ordinance for this property in Sonoma Valley.

CONSISTENCY WITH PUBLIC PLANS AND ZONING

Under the No Project Alternative, no lot line adjustment, General Plan amendment, North Sonoma Valley Specific Plan Amendment or zoning change would be necessary. Consistency with the *Sonoma County General Plan*, *North Sonoma Valley Specific Plan* or the Sonoma County Zoning Ordinance would not be an issue.

Under this alternative the errors in the wording of *General Plan* policy LU-14r, the area designated Recreation and Visitor Serving Commercial for Graywood Ranch under both the *General Plan* and Zoning Ordinance and the area designated RRD 60 acre zoning would not be corrected as soon. Since these errors do not result in significant adverse physical impacts this would not be a significant adverse impact.

LAND USE

Under this alternative land use impacts would be less than the proposed project. With the construction of 11 residential units on the site incompatibility with the adjacent private airstrip and with adjacent agriculture uses would still be significant.

TRAFFIC AND CIRCULATION

The No Project Alternative would generate about three inbound and six outbound trips by residents, as well as five inbound and two outbound maintenance worker trips during the Friday AM peak hour. During the Friday PM peak hour Alternative 1 would generate about seven inbound and four outbound trips by residents, as well as six outbound maintenance worker trips, and during the Sunday PM peak hour this alternative would generate five inbound and four outbound trips by residents, and four outbound maintenance worker trips.

Exhibits 6.0-1, 6.0-2, and 6.0-3 provide the results of intersection level of service analyses for Alternative 1 and all other alternatives. This alternative would not result in significant impacts to intersection level of service during the Friday AM peak hour, Friday PM peak hour, or Sunday PM peak hour.

Alternative 1 is the only alternative that would eliminate all off-site project traffic-related impacts identified for the proposed project. This is due to its low-level trip generation and absence of impacts due to special event traffic.

EXHIBIT 6.0-1

ALTERNATIVES EVALUATION INTERSECTION LEVEL OF SERVICE FRIDAY 7:30-8:30 AM

Intersection	Year 2005		Would the traffic volume increment due to the Project or an Alternative result in 5 or more seconds additional delay?	Year 2012		Would the traffic volume increment due to the Project or an Alternative result in 5 or more seconds additional delay?
	Base Case	Base Case + Project or Alternative (w/o Special Events)		Base Case	Base Case + Project or Alternative (w/o Special Events)	
SR 12/Randolph Avenue						
Project	F-65.5/A-10.0 ^a	F-71.4/A-10.0	Yes	F-127.3/B-10.5	F-142.0/B-10.5	Yes
Alternative 1	F-65.5/A-10.0 ^a	F-67.5/A-10.0	No	F-127.3/B-10.5	F-132.1/B-10.5	No
Alternative 2	F-65.5/A-10.0 ^a	F-69.1/A-10.0	No	F-127.3/B-10.5	F-135.9/B-10.5	Yes
Alternative 3	F-65.5/A-10.0 ^a	F-69.3/A-10.0	No	F-127.3/B-10.5	F-136.3/B-10.5	Yes
Alternative 4	F-65.5/A-10.0 ^a	F-70.0/A-10.0 ⁽¹⁾	No	F-127.3/B-10.5	F-138.0/B-10.5	Yes

^a Side street stop sign controlled level of service—average control delay (in seconds). Randolph Avenue northbound left turn to SR 12/SR 12 westbound approach to Randolph Avenue.

Source: Crane Transportation Group

EXHIBIT 6.0-2

ALTERNATIVES EVALUATION INTERSECTION LEVEL OF SERVICE FRIDAY 5:00-6:00 PM

<i>Intersection</i>	<i>Year 2012</i>		<i>Would the traffic volume increment due to the Project or an Alternative result in 5 or more seconds additional delay?</i>
	<i>Base Case</i>	<i>Base Case + Project or Alternative (w/o Special Events)</i>	
SR 12/Adobe Canyon Road			
Project	F-123.6/B-11.5	F-133.0/B-11.6	Yes
Alternative 1	F-123.6/B-11.5	F-125.5/B-11.5	No
Alternative 2	F-123.6/B-11.5	F-128.6/B-11.5	Yes
Alternative 3	F-123.6/B-11.5	F-129.2/B-11.5	Yes
Alternative 4	F-123.6/B-11.5	F-128.1/B-11.5	No

Source: Crane Transportation Group

EXHIBIT 6.0-3

ALTERNATIVES EVALUATION INTERSECTION LEVEL OF SERVICE SUNDAY 3:30-4:30 PM

Intersection	Year 2005		Would the traffic volume increment due to the Project or an Alternative result in 5 or more seconds additional delay?	Year 2012		Would the traffic volume increment due to the Project or an Alternative result in 5 or more seconds additional delay?
	Base Case	Base Case + Project or Alternative (w/o Special Events)		Base Case	Base Case + Project or Alternative (w/o Special Events)	
SR 12/Adobe Canyon Road						
Project	F-128.6/B-10.4 ^a	F-137.0/B-10.5	Yes	F-276.0/B-11.1	F-294.0/B-11.1	Yes
Alternative 1	F-128.6/B-10.4 ^a	F-130.0/B-10.4	No	F-276.0/B-11.1	F-280.9/B-11.1	No
Alternative 2	F-128.6/B-10.4 ^a	F-137.7/B-10.5	Yes	F-276.0/B-11.1	F-295.2/B-11.1	Yes
Alternative 3	F-128.6/B-10.4 ^a	F-139.4/B-10.5	Yes	F-276.0/B-11.1	F-298.7/B-11.2	Yes
Alternative 4	F-128.6/B-10.4 ^a	F-135.0/B-10.5	Yes	F-276.0/B-11.1	F-290.9/B-11.1	Yes

^a Side street stop sign controlled level of service—average control delay (in seconds). Adobe Canyon Road southbound left turn to SR 12/SR 12 eastbound approach to Adobe Canyon Road.

Source: Crane Transportation Group

HYDROLOGY AND WATER QUALITY

The No Project Alternative would have a negligible impact on runoff to Graywood Creek (Subwatershed 1) (see Exhibit 6.0-4). However, residential development in Subwatershed 2a and drainage that provides flow to the narrow-anthered California Brodiaea colony would increase the peak runoff rate significantly (10.5 and 8.7 percent, respectively). The increase in runoff could lead to increased erosion, and incision and/or widening of the channel through the watershed. Also, the addition of impervious surfaces to the Brodiaea watershed would increase the volume of runoff to the wetland. This may alter the soil moisture balance of the wetland, potentially impacting the plants. Mitigation measures for developing a drainage plan and implementing BMPs to minimize changes to the peak flow in the affected subwatershed would still be required (see Mitigation Measures 5.3-2 and 5.3-3). In addition, mitigation measures still would be required to prevent potential water quality and erosion and sedimentation impacts resulting from construction on the residential lots or other project-related activities (see Mitigation Measure 5.3-1).

**EXHIBIT 6.0-4
 INCREASE IN PEAK RUNOFF OVER EXISTING CONDITIONS FOR PROPOSED PROJECT AND ALTERNATIVES**

Alternative	Percent (%) Increase in Peak Runoff Over Existing Conditions		
	Subwatershed 1 (Graywood Creek)	Drainage 2a (Subwatershed 2)	Drainage 1a (Brodiaea Drainage)
Proposed Project	4.5	26	13
Alternative 1	0.0	10.5	8.7
Alternative 2 ^a	4.5-9.1	16-21	13-17
Alternative 3	4.5	16	13
Alternative 4 ^b	4.5 (-)	16 (-)	13 (-)

a The lower value assumes the two (2) additional residential lots are not located in the drainage area; the higher value assumes the home would be located in the drainage area

b The projected increase in peak runoff is less than Alternative 3 by a very small amount that is less than the degree of precision of the runoff calculation. From a hydrology standpoint, the difference between the two alternatives is not statistically significant.

Source: Questa Engineering

WASTEWATER

By eliminating the need for commercial wastewater disposal, the No Project Alternative would avoid any impacts to groundwater quality in the groundwater recharge area. Mitigations would still be required to reduce impacts from noncompliance with setback requirements for leachfields serving residential lots 3 and 4 (Mitigation Measure 5.4-3).

WATER SUPPLY

The water supply needed for the No Project Alternative would only be for residential landscaping and domestic use (see Exhibit 6.0-5). The average annual water supply under this alternative would be less than one-third of that required for the proposed project, and the use of the Winery Well would not

be necessary. The Winery Well could be abandoned or used as a back up well to the Resort Well under this alternative. Pumping required by the Resort Well for the commercial development would be eliminated, and well interference effects on nearby neighboring wells would be negligible. Potential impacts to neighboring wells and springs, groundwater recharge and aquifer level would be less-than-significant.

**EXHIBIT 6.0-5
 AVERAGE DAILY WATER DEMAND FOR PROPOSED PROJECT AND ALTERNATIVES**

Alternative	Average Daily Water Demand ^a (gpd)			
	Inn/Spa/Restaurant	Residential Lots	Winery/Events Pavilion	Total
Proposed Project	17,300	8,800	5,000	31,100
Alternative 1	0	8,800	0	8,800
Alternative 2	14,430	10,400	5,000	29,830
Alternative 3	11,970	8,800	5,000	25,770
Alternative 4	11,970	8,800	0	20,770

a Includes landscape irrigation needs.

Source: Questa Engineering

BIOLOGICAL RESOURCES

Potential impacts on biological resources under this alternative would be less than the proposed project, due to a reduction in the extent of grading and associated loss of habitat. Structures, roadways, and parking associated with the winery and inn contribute to a large portion of the anticipated habitat modification from the proposed project, this alternative would most likely require less tree removal and disturbance to native vegetation and wildlife habitat. However, anticipated impacts on special-status species, sensitive natural communities, wetlands, and native habitat and wildlife movement opportunities would still be significant. Mitigation measure recommended to address anticipated impacts of the proposed project would still be required under this alternative.

GEOLOGY/SOILS

This alternative would remove development within the alluvial lowland area, and the geology/soils impacts related to liquefaction (Impact 5.7-3), seismic ground settlements (Impact 5.7-4), lurching/ground cracking (Impact 5.7-5), and lateral spreading (5.7-6) would no longer be present unless residential septic systems would still extend into the lowland area. The remaining impacts would be similar to the proposed project. The site- and project-specific design level geotechnical investigations described in *Section 5.7 Geology/Soils* for the proposed project (see Mitigation Measures 5.7-2 and 5.7-7) would still be required for this alternative.

VISUAL AND AESTHETIC QUALITY

Based on the photosimulations prepared for the proposed project (see *Section 5.8 Visual and Aesthetic Quality*) without the inn/spa/restaurant this alternative would result in less-than-significant visual impacts from the three viewpoints. Similar to the proposed project, this alternative would result in new lighting sources on the project site, which together with other proposed development, could lead to increased light pollution. Mitigation measures for light pollution (see Mitigation Measure 5.8-4) would still be required but may not reduce it to less-than-significant.

CULTURAL RESOURCES

Similar to the proposed project, significant impacts to potential subsurface cultural resources could occur with this alternative. Mitigation measures for cultural resources (see Mitigation Measure 5.9-1) would still be required.

AIR QUALITY

With this alternative significant construction period air quality impacts and wood burning emissions would occur, similar to the proposed project. Mitigation measures for construction period air quality impacts (see Mitigation Measure 5.10-1) and wood burning emissions (see Mitigation Measure 5.10-4) would still be required.

NOISE

Without development of the winery and the events pavilion the noise impacts associated with the proposed project would not occur.

6.2 ALTERNATIVE 2 – GENERAL PLAN ALTERNATIVE

This alternative evaluates an alternative consistent with the current *Sonoma County General Plan* designations. As discussed in *Chapter 4.0 Consistency with Public Plans and Zoning*, in 1984 Sonoma County approved a project on the 476 acre Graywood Ranch that consisted of the following:

- x A 36-room inn and associated dining hall on a 25-acre “inn parcel”
- x A winery on a separate eight-acre “winery parcel”
- x A 107-acre “agricultural” parcel labeled “not a residential lot” on the tentative map
- x A 255-acre “remnant parcel” labeled “existing home to remain” on the tentative map
- x 18 additional rural residential parcels

No specific actions have been taken to develop Graywood Ranch pursuant to the 1984 approval. The Board of Supervisors, however, reaffirmed its commitment to the 1984 project by including policy LU-14r in the text of the *General Plan* when it was last updated in 1989. According to policy LU-14r the “Diverse Agriculture” and “Recreation and Visitor Serving Commercial” designations applied to Graywood Ranch are intended to accommodate an approved development consisting of 18 residential

parcels, a 35-room hotel and a winery, each on separate parcels, an agricultural parcel and a residual parcel.

Errors were made in the wording of policy LU-14r which have been acknowledged by Sonoma County Permit and Resource Management Department (PRMD) staff.¹ These errors include the determination that the 35 rooms cited in the policy was incorrect and the correct number of hotel rooms was 36, and that a “restaurant” was also part of the 1984 approval.

PRMD staff has made an interpretation that consistent with the 1984 approved project implementation of policy LU-14r on Graywood Ranch would include:²

- x A 25-acre inn site
- x 20 residential units (18 on new lots, and two existing units on the inn and remnant parcels)³
- x A winery on the designated “Winery Parcel” (no dwelling units allowed)
- x Agricultural use of the “Ag Parcel” (no dwelling units allowed)

As discussed in *Section 3.3 Cumulative Development Assumptions*, a separate development application has been filed for the westerly 290 acres of the Graywood Ranch. Four residences and one second unit currently exist on the 290 acres, and the proposed subdivision would permit three additional residential units to be constructed on newly proposed vacant parcels. One parcel (Lot 4) would contain two homes (if permitted by zoning) and the second units, for a total of seven residential units on the western portion of the Graywood Ranch property (not counting the second units).

Therefore, based on *General Plan* policy LU-14r, county staff interpretation of that policy, and the proposed development on the westerly 290 acres of the Graywood Ranch, a project on the *Sonoma Country Inn* project site consistent with the *General Plan* would consist of the following:

- x A 36-room inn and restaurant open to inn guests only, located on a 25-acre site.
- x A winery on a designated “Winery Parcel” (no dwelling units allowed)
- x 13 residential lots
- x Agricultural use on the remaining portion of the project site.

¹ Letter to Michael Morrison, Common Ground Land Planning Services from Richard C. Rogers, AICP, Planner III, County of Sonoma Permit and Resource Management Department, February 5, 1996.

² *Ibid.*

³ The staff report for the 1984 project mentioned two existing residences but did not locate them. Therefore, County staff concluded that the approved project consisted of 18 new and two existing dwelling units. County staff acknowledge the report of a third existing residence but find no mention of it in previous staff reports. County staff states that if three residences exist then the number of new residences allowed would be 17. Letter to Michael Morrison, Common Ground Land Planning Services from Richard C. Rogers, AICP, *op. cit.* More recent information, however, indicates a total of four existing residences on the Graywood Ranch, zero on the Sonoma Country Inn portion and four on the Lendal Gray portion.

For the purpose of this analysis it is also assumed that this alternative would have the same number of special events (30 special events per year with maximum 200-person attendance) as the proposed project which would be permitted with a use permit under current zoning.

Although Alternative 2 would meet some of the applicant's objectives for the proposed *Sonoma Country Inn* project, it would not meet the applicant's objective to construct a high quality 50-room inn, spa, winery, and residential complex that is substantially in compliance with intended uses identified in the *Sonoma County General Plan* and Zoning Ordinance for this property.

CONSISTENCY WITH PUBLIC PLANS AND ZONING

The General Plan Alternative was designed to be consistent with policy LU-14r of the *Sonoma County General Plan* and therefore would be consistent. Since a specific development proposal is not available it would be speculative to determine consistency with other specific policies of the *Sonoma County General Plan* and provisions of the Zoning Ordinance. For the most part Alternative 2 would potentially conflict with or require mitigation for consistency with the same *General Plan* policies with which the proposed project would be inconsistent. The major difference in regard to conformance with the *General Plan* between the proposed project and Alternative 2 would be related to the issue of intensification of uses on the project site. As discussed in **Chapter 4.0 Consistency with Public Plans and Zoning** the proposed project would potentially conflict with objectives OS-1.2, and OS-2.1 and policies OS-1b, OS-1c, OS-2c, AR-5e, and AR-6b due to the intensification of uses on the project site over the 1984 project. Since Alternative 2 was designed to be consistent with policy LU-14r there would be no intensification of uses and Alternative 2 would be consistent with objectives OS-1.2, and OS-2.1 and policies OS-1b, OS-1c, OS-2c, AR-5e, and AR-6b. The same as the proposed project, the General Plan Alternative would potentially conflict with objective CT 2.2.

In regard to the *North Sonoma Valley Specific Plan* the General Plan Alternative may conflict with Goal D to "maintain or enhance existing views from Highway 12, other roads, residences and work places" and with the relevant policies.

In regard to conformance with the Sonoma County Zoning Ordinance, similar to the proposed project, it is assumed that future development as envisioned by Alternative 2 would be able to easily conform to the requirements of this ordinance. If this alternative included building heights above 35 feet the Use Permit would need to include a request to exceed the 35 foot height limit.

Similar to the proposed project, with Alternative 2 the errors in the wording of *General Plan* policy LU-14r, the area designated Recreation and Visitor Serving Commercial for Graywood Ranch under both the *General Plan* and Zoning Ordinance and the area designated RRD 60 acre zoning would be corrected.

LAND USE

Under this alternative land use impacts would be similar to the proposed project. Compatibility with the adjacent private airstrip and with adjacent agriculture uses would be significant. Mitigation measures for this alternative would be similar to those required for the proposed project (see Mitigation Measures 5.1-1, 5.1-3, and 5.1-4).

Similar to the proposed project, growth inducing impacts would be less-than-significant.

TRAFFIC AND CIRCULATION

Alternative 2 would generate about 27 inbound and 14 outbound trips during the Friday AM peak hour, 19 inbound and 34 outbound trips during the Friday PM peak hour, and 23 inbound and 29 outbound trips during the Sunday PM peak hour. See Exhibit 5.2-21 for corresponding trip generation for proposed project.

Exhibits 6.0-1, 6.0-2, and 6.0-3 provide the results of intersection level of service analyses for Alternative 2 and all other alternatives. This alternative would result in similar impacts to intersection level of service that would result from the proposed project (Impacts 5.2-1, 5.2-2, 5.2-4, 5.2-5, and 5.2-8) with one exception: during the Year 2005 Base Case Friday AM peak hour traffic added due to this alternative would result in a less-than-significant impact at the SR 12/Randolph Avenue intersection. The same mitigation measures as for the proposed project would be required.

On-site impacts and mitigations for this alternative (such as project access road intersection impacts, roadway hazards, SR 12/project access road intersection safety impacts, internal pedestrian access, emergency access, parking supply, and road hazards) would be the same as for the proposed project, assuming a similar overall site design.

Special event impacts from this alternative would be the same as for the proposed project.

HYDROLOGY AND WATER QUALITY

The General Plan Alternative would increase peak runoff over existing conditions in Subwatershed 1 by an estimated 4.5 to 9.1 percent, depending upon whether the two additional homes were constructed in this watershed (see Exhibit 6.0-4). Peak runoff in the Brodiaea colony watershed would be increased by up to 17 percent, again depending upon the location of the two additional homes. Impacts to peak runoff in Subwatershed 1 and the Brodiaea colony watershed would be similar to or somewhat higher than those under the proposed project, due primarily to the potential construction on the two additional residential lots. Impacts on peak runoff in Drainage 2a would be lower than those from the proposed project, due to the reduction in size of the inn. Mitigation measures for developing a drainage plan and implementing BMPs to minimize changes to the peak flow would still be required (see Mitigation Measures 5.3-2 and 5.3-3). In addition, mitigation measures still would be required to prevent potential water quality and erosion and sedimentation impacts resulting from construction on the residential lots or other project-related activities (see Mitigation Measure 5.3-1).

WASTEWATER

The General Plan Alternative includes the development of two additional residential lots over the proposed project. The project site does not appear to be highly constrained for individual on-site wastewater disposal; however, to avoid creating a significant impact, all proposed residential wastewater disposal systems should meet applicable regulatory requirements. The commercial wastewater flows generated under this alternative would be approximately 85 percent of those generated by the proposed project (see Exhibit 6.0-6). Unless mitigated through the use of nitrogen removal treatment systems (see Mitigation Measure 5.4-4), development of the General Plan Alternative would result in groundwater nitrate-nitrogen concentrations that could potentially reach or exceed the drinking water standard (10 mg-N/L) in the groundwater recharge area (see Exhibit 6.0-7). While this alternative would impact the groundwater quality to a lesser extent than the proposed project, mitigation measures still would be required to reduce the impact to less-than-significant. As

can be seen from the results for an assumed effluent concentration of 15 mg-N/L in Exhibit 6.0-7, the groundwater nitrate concentrations can be reduced to safe levels (well below drinking water standards) if the FAST systems are designed and operated for nitrogen removal.

**EXHIBIT 6.0-6
 PEAK DAILY WASTEWATER FLOW FOR PROPOSED PROJECT AND ALTERNATIVES**

Alternative	Peak Daily Wastewater Flow (gpd)			
	Inn/Spa/Restaurant ^a	Residential Lots	Winery/Events Pavilion	Total
Proposed Project	12,650	3,960	1,955	18,565
Alternative 1	0	3,960	0	3,960
Alternative 2	10,500	4,680	1,955	17,135
Alternative 3	8,750	3,960	1,955	14,665
Alternative 4	8,750	3,960	0	12,710

a Does not include graywater.

Source: Questa Engineering

**EXHIBIT 6.0-7
 RESULTANT NITRATE-NITROGEN CONCENTRATIONS FOR PROPOSED PROJECT AND ALTERNATIVES**

Location	Resultant Nitrate-Nitrogen Concentration (Mitigated Nitrogen Concentration – with Nitrogen Removal) (mg-N/L)				
	Proposed Project	Alt. 1 ^a	Alt. 2	Alt. 3	Alt. 4
Southern Property Line	6.7-8.7 (3.6-4.5)	NA	6.0-7.8 (3.3-4.1)	5.4-7.1 (3.0-3.8)	4.8-6.3 (2.7-3.3)
Southeastern Property Line	8.7-11.1 (4.5-5.6)	NA	7.9-10.1 (4.1-5.1)	7.1-9.2 (3.8-4.7)	6.3-8.2 (3.4-4.2)
Immediately Downgradient of Disposal Area	12.2-14.8 (6.1-7.2)	NA	11.2-13.7 (5.6-6.8)	10.2-12.7 (5.2-6.3)	9.2-11.6 (4.6-5.7)
Reserve Area	8.1-10.4 (4.2-5.2)	NA	7.3-9.4 (3.9-4.8)	6.5-8.5 (3.5-4.4)	5.8-7.6 (3.1-3.9)
Drinking water standard is 10 mg-N/L					

a Not applicable (NA); no residential disposal fields are proposed for the groundwater recharge area.

Source: Questa Engineering

WATER SUPPLY

Both the Resort and Winery Wells would be used to provide water for commercial and residential use under the General Plan Alternative. This alternative would require a slightly lower total water demand (approximately five percent less) than the proposed project (see Exhibit 6.0-5). Any potential impacts to neighboring wells and springs, groundwater recharge and aquifer level would be less-than-significant, and very similar (though slightly smaller) in magnitude to those anticipated from the proposed project.

BIOLOGICAL RESOURCES

Under this alternative, biological resources impacts would be similar to the proposed project. Similar to the proposed project, the General Plan Alternative could have a significant adverse effect on two populations of special-status plant species known to occur on the site, narrow-anthered California brodiaea and Sonoma ceanothus. Furthermore, the General Plan Alternative similarly would result in loss of important native habitat and sensitive natural community types, result in loss and modifications to jurisdictional wetlands and other waters, and interfere substantially with wildlife movement opportunities. Since a specific development proposal is not available it is not possible to quantify the differences between the General Plan Alternative and the proposed project. For example, the extent of the impact on the narrow-anthered California brodiaea and Sonoma ceanothus would depend on the layout of the 13 residential lots, the location of the building envelopes and the location of the driveways. Similar to the proposed project, this alternative would require mitigation measures in order to provide permanent protection of the narrow-anthered California brodiaea and Sonoma ceanothus populations on the site (see Mitigation Measure 5.6-1). Likewise, mitigation measures would be required to avoid disturbance to the sensitive natural communities (see Mitigation Measures 5.6-2 and 5.6-3) and reduce the loss of woodland and forest habitat on the site (see Mitigation Measure 5.6-4).

GEOLOGY/SOILS

Under this alternative, geology/soils impacts would be similar to the proposed project. The site- and project-specific design level geotechnical investigations described in *Section 5.7 Geology/Soils* for the proposed project (for example see Mitigation Measures 5.7-2, 5.7-3, 5.7-5, 5.7-6, and 5.7-7) would also be required for this alternative. With the two additional residential lots the secondary impacts of grading for this alternative would be slightly more than the proposed project; however, this may be balanced with the slightly reduced grading for the inn due to the reduced number of rooms.

VISUAL AND AESTHETIC QUALITY

With the General Plan Alternative it is likely that visual impacts would be similar to the proposed project for viewpoints 1 and 2, i.e., less-than-significant. It is likely that the two additional residential lots like those proposed would be sited so as not to result in significant adverse visual impacts.

Under this alternative, the number of buildings associated with the inn/spa/restaurant that would be visible from viewpoint 3 (State Route 12 west of Adobe Canyon Road) would be reduced as compared to the proposed project. Further, the total surface area of buildings within view from this location would be reduced, although portions of some buildings would be visible. Reducing the number and amount of buildings within view, in conjunction with the use of exterior colors that match the surrounding trees and preserving trees in areas where buildings are eliminated from the site plan would reduce the level of contrast the project would have with the immediately surrounding area.

Under Alternative 2, the project would be less likely to attract attention when seen from State Route 12 west of Adobe Canyon Road than the proposed project. The visual impact of Alternative 2 would therefore be less. To be judged a less-than-significant visual impact, the project would need to be subordinate within the view and blend with the surrounding area such that it would not attract attention when seen from State Route 12 west of Adobe Canyon Road. With the incorporation of mitigation measures (see Mitigation Measure 5.8-3) the visual impact for this alternative from viewpoint 3 would be reduced to less-than-significant.

Similar to the proposed project, the General Plan Alternative would result in new lighting sources on the project site, which together with other proposed development, could lead to increased light pollution. Mitigation measures for light pollution (see Mitigation Measure 5.8-4) would still be required. This would be a significant unavoidable impact.

CULTURAL RESOURCES

Similar to the proposed project, significant impacts to potential subsurface cultural resources could occur with the General Plan Alternative. Mitigation measures for cultural resources (see Mitigation Measure 5.9-1) would still be required.

AIR QUALITY

With the General Plan Alternative significant construction period air quality impacts and wood burning emissions impacts would occur, similar to the proposed project. Mitigation measures for construction period air quality impacts (see Mitigation Measure 5.10-1) and wood burning emissions (see Mitigation Measure 5.10-4) would still be required.

NOISE

This alternative would include the same number of special events (30 special events per year with a maximum 200-person attendance) as the proposed project. Therefore, noise impacts associated with the special events at the winery would be the same for the General Plan Alternative as the proposed project. Mitigation measures for noise impacts associated with the special events (see Mitigation Measure 5.11-1) would still be required. Since the General Plan Alternative includes two additional residential lots and 14 fewer inn rooms than the proposed project the number of people on-site that would be impacted by the project noise levels would be slightly different with this alternative than the proposed project.

6.3 ALTERNATIVE 3 – REDUCED SIZED INN WITH WINERY

The objective of this alternative is to reduce some of the significant unavoidable traffic and visual impacts identified for the proposed project. In order to achieve this objective the number of rooms in the inn would be reduced to 24 and other aspects of the inn would be relocated. Other portions of the proposed project would remain the same. This alternative, therefore, would consist of the following:

- x A 24-room inn with accessory uses plus a restaurant (with 125 total seats) and spa open to the public by reservation.

- x A winery, same size as the proposed project.
- x The same number of special events (30 special events per year with a maximum 200-person attendance) as the proposed project.
- x Eleven residential units, the same as the proposed project.

Reducing the number of guest rooms from 50 to 24 would be achieved by revising the applicant's proposed site plan (see Exhibit 3.0-10) as follows:

- x Eliminate the two Type C building guest cottages located at the extreme eastern end of the inn site.
- x Eliminate the Type D building, the two Type F buildings, the Type B building and the Type A building guest cottages located directly east of the pool, cabana, and fitness center.
- x Eliminate the Type B building and Type E building guest cottages located immediately west of the pool, cabana, and fitness center.
- x Eliminate the Type G building guest cottage located at the extreme western end of the inn site.

In all cases, trees located in areas where buildings are eliminated from the site plan would be preserved. It is assumed that colors used for exterior building surfaces would match the hue, lightness, and saturation of colors of the immediately surrounding trees, and that several matching colors would be used in order to minimize uniformity.

Although Alternative 3 would meet some of the applicant's objectives for the proposed *Sonoma Country Inn* project, it would not meet the applicant's objective to construct a high quality 50-room inn, spa, winery, and residential complex that is substantially in compliance with intended uses identified in the *Sonoma County General Plan* and Zoning Ordinance for this property.

CONSISTENCY WITH PUBLIC PLANS AND ZONING

For the most part, consistency with public plans and zoning for Alternative 3 would be similar to Alternative 2. Since a specific development proposal is not available it would be speculative to determine consistency with other specific policies of the *Sonoma County General Plan* and provisions of the Zoning Ordinance. With the reduction in the number of rooms to 24, except for the restaurant being open to the public by reservation, alternative 3 would be consistent with *Sonoma County General Plan* policy LU-14r.

For the most part Alternative 3 would be inconsistent with or require mitigation for consistency with the same *General Plan* policies with which the proposed project would be inconsistent. The major difference in regard to conformance with the *General Plan* between the proposed project and Alternative 3 would be related to the issue of intensification of uses on the project site. As discussed in **Chapter 4.0 Consistency with Public Plans and Zoning** the proposed project would potentially conflict with objectives OS-1.2, and OS-2.1 and policies OS-1b, OS-1c, OS-2c, AR-5e, and AR-6b due to the intensification of uses on the project site over the 1984 project. With a reduction in the number of rooms to 24 there would be less intensification of uses. However, the restaurant and spa open to the public and the special events at the winery may still be viewed as an intensification of use

and thus potentially in conflict with objectives OS-1.2, and OS-2.1 and policies OS-1b, OS-1c, OS-2c, AR-5e, and AR-6b.

In regard to conformance with the Sonoma County Zoning Ordinance, similar to the proposed project, it is assumed that future development as envisioned by Alternative 3 would be able to easily conform to the requirements of this ordinance. If this alternative included building heights above 35 feet the Use Permit would need to include a request to exceed the 35 foot height limit.

Similar to the proposed project, with Alternative 3 the errors in the wording of *General Plan* policy LU-14r, the area designated Recreation and Visitor Serving Commercial for Graywood Ranch under both the *General Plan* and Zoning Ordinance and the area designated RRD 60 acre zoning would be corrected.

LAND USE

Similar to the proposed project Alternative 3's compatibility with the adjacent private airstrip and with adjacent agriculture uses would be significant. With the reduced number of people on-site (due to the reduced number of rooms), these land use compatibility issues would be somewhat less than the proposed project. Mitigation measures for this alternative would be similar to those required for the proposed project (see Mitigation Measures 5.1-1, 5.1-3 and 5.1-4).

Similar to the proposed project, growth inducing impacts would be less-than-significant.

TRAFFIC AND CIRCULATION

The Reduced Inn with Winery Alternative would generate about 30 inbound and 14 outbound trips during the Friday AM peak hour, 20 inbound and 34 outbound trips during the Friday PM peak hour, and 26 inbound and 35 outbound trips during the Sunday PM peak hour. See Exhibit 5.2-21 for corresponding trip generation for proposed project.

Exhibits 6.0-1, 6.0-2, and 6.0-3 provide the results of intersection level of service analyses for Alternative 3 and all other alternatives. This alternative would result in the same impacts to intersection levels of service as for the proposed project (Impacts 5.2-1, 5.2-2, 5.2-4, 5.2-5, and 5.2-8) with one exception: during the year 2005 Base Case Friday AM peak hour, traffic added due to this alternative would result in a less-than-significant impact at the SR 12/Randolph Avenue intersection. The same mitigation measures as for the proposed project would be required.

Alternative 3 (and Alternative 4) would have the fewest number of inn rooms (26 fewer than the proposed project and 12 fewer than Alternative 2). This reduction in the number rooms would not achieve proportional reductions in traffic volumes. This is because whether a facility has 24, 36, or 50 rooms, a certain level of staffing is necessary to maintain the facility, and the pattern and volume of employee and guest arrivals and departures on a Friday AM, Friday PM, or Sunday PM peak hour would not be greatly affected by the 24 to 50-room range.

On-site impacts and mitigations for this alternative (such as project access road intersection impacts, roadway hazards, SR 12/project access road intersection safety impacts, internal pedestrian access, emergency access, parking supply, and road hazards) would be the same as for the proposed project, assuming a similar overall site design.

Alternative 3 special event impacts would be the same as for the proposed project.

HYDROLOGY AND WATER QUALITY

Alternative 3 would have a similar impact on peak runoff in Subwatershed 1 and the Brodiaea colony watershed as the proposed project (4.5 and 13 percent increase in peak runoff, respectively). Impacts to peak runoff in Drainage 2a would be lower than those of the proposed project, due to the reduction in the number of guest cottages under this alternative. Mitigation measures for developing a drainage plan and implementing BMPs to minimize changes to the peak flow would still be required (see Mitigation Measures 5.3-2 and 5.3-3). In addition, mitigation measures still would be required to prevent potential water quality and erosion and sedimentation impacts resulting from construction on the residential lots or other project-related activities (see Mitigation Measure 5.3-1).

WASTEWATER

The commercial wastewater flows generated under this alternative would be approximately 85 percent of those generated by the proposed project (see Exhibit 6.0-6). Unless mitigated through the use of nitrogen removal treatment systems (see Mitigation Measure 5.4-4), development of the Reduced Inn with Winery Alternative would still result in groundwater nitrate-nitrogen concentrations that would potentially reach or exceed the drinking water standard (10 mg-N/L) in the groundwater recharge area. While this alternative would impact the groundwater quality to a lesser extent than the proposed project, mitigation measures still would be required to reduce the impact to less-than-significant. As can be seen from the results for an assumed effluent concentration of 15 mg-N/L in Exhibit 6.0-7, the groundwater nitrate concentrations can be reduced to safe levels (well below drinking water standards) if the FAST systems are designed and operated for nitrogen removal. Under this alternative, mitigation measures would still be required to reduce impacts from noncompliance with setback requirements for leachfields serving residential lots 3 and 4 (see Mitigation Measure 5.4-3).

WATER SUPPLY

Under this alternative, the water demand from the Resort Well (inn/spa/restaurant and residential use) would be approximately 20 percent lower than that required by the proposed project; the water demand from the Winery Well would remain the same (see Exhibit 6.0-5). Pumping required by the Resort Well for the commercial development would be significantly reduced, and well interference effects on nearby neighboring wells would be somewhat lower than those resulting from the pumping rates by the proposed project. Similar to the proposed project potential impacts to neighboring wells and springs, groundwater recharge and aquifer level would be less-than-significant.

BIOLOGICAL RESOURCES

Potential impacts on biological resources under the Reduced Inn with Winery Alternative would be slightly less than the proposed project, due to a reduction in the size of the proposed inn. This reduction may provide additional opportunities to avoid mature trees, reduce the visibility of the inn complex and still provide an adequate setback from the ephemeral drainage which passes to the north of the proposed main house to the inn, and continues northward to the sensitive wetland/brodiaea complex. Eliminating the 26 units in the various cottages under this alternative would serve to preserve the grasslands on the slope east of the pool and fitness center, and trees along the western and eastern edges of the complex. Potential impacts on special-status species, sensitive natural

communities, wetlands, and native habitat and wildlife movement opportunities could still be significant. Mitigation measure recommended to address anticipated impacts of the project as proposed would still be required under this alternative (see Mitigation Measures 5.6-1, 5.6-2, 5.6-3, and 5.6-4).

Similar to the proposed project, setbacks would be required from the south side of the ephemeral drainage under this alternative. All landscape, pathway, lighting and any exterior improvements should be sited a minimum of 25 feet from the south side of the ephemeral drainage, with the signage, rustic fencing or other effective barriers installed at this setback distance as called for in Mitigation Measure 5.6-1(b).

GEOLOGY/SOILS

Under this alternative, geology/soils impacts would be similar to the proposed project. The site- and project-specific design level geotechnical investigations described in *Section 5.7 Geology/Soils* for the proposed project (see Mitigation Measures 5.7-2, 5.7-3, 5.7-5, 5.7-6, and 5.7-7) would also be required for this alternative.

VISUAL AND AESTHETIC QUALITY

Under this alternative, the number of buildings associated with the inn/spa/restaurant that would be visible from viewpoint 3 (State Route 12 west of Adobe Canyon Road) would be reduced as compared to the proposed project. Further, the total surface area of buildings within view from this location would be reduced, although portions of some buildings would be visible. Reducing the number and amount of buildings within view, in conjunction with the use of exterior colors that match the surrounding trees and preserving trees in areas where buildings are eliminated from the site plan would reduce the level of contrast the project would have with the immediately surrounding area.

Under Alternative 3, the project would be less likely to attract attention when seen from State Route 12 west of Adobe Canyon Road than the proposed project. The visual impact of Alternative 3 would therefore be less. To be judged a less-than-significant visual impact, the project would need to be subordinate within the view and blend with the surrounding area such that it would not attract attention when seen from State Route 12 west of Adobe Canyon Road. With the incorporation of mitigation measures (see Mitigation Measure 5.8-3) the visual impact for this alternative from viewpoint 3 would be reduced to less-than-significant.

Similar to the proposed project, this alternative would result in new lighting sources on the project site, which together with other proposed development, could lead to increased light pollution. Mitigation measures for light pollution (see Mitigation Measure 5.8-4) would still be required. This would remain a significant unavoidable impact.

CULTURAL RESOURCES

Similar to the proposed project, significant impacts to potential subsurface cultural resources could occur with Alternative 3. Mitigation measures for cultural resources (see Mitigation Measure 5.9-1) would still be required.

AIR QUALITY

With this alternative significant construction period air quality impacts and wood burning emissions would occur, similar to the proposed project. Mitigation measures for construction period air quality impacts (see Mitigation Measure 5.10-1) and wood burning emissions (see Mitigation Measure 5.10-4) would still be required.

NOISE

This alternative would include the same number of special events (30 special events per year with a maximum 200-person attendance) as the proposed project. Therefore, noise impacts associated with the special events at the winery would be the same for Alternative 3 as the proposed project. Mitigation measures for noise impacts associated with the special events (see Mitigation Measure 5.11-1) would still be required. Although this alternative includes the same number of residential units, with the 26 fewer inn rooms than the proposed project the number of people on-site that would be impacted by the project noise levels would be less with this alternative than the proposed project.

6.4 ALTERNATIVE 4 – REDUCED SIZED INN WITHOUT WINERY

This alternative would be the same as Alternative 3 except the winery would not be built. Without the winery there would be no special events. This alternative, therefore, would consist of the following:

- x A 24-room inn with accessory uses plus a restaurant (with 125 total seats) and spa open to the public by reservation.
- x Eleven residential units, the same as the proposed project.

Although Alternative 4 would meet some of the applicant's objectives for the proposed *Sonoma Country Inn* project, it would not meet the applicant's objective to construct a high quality 50-room inn, spa, winery, and residential complex that is substantially in compliance with intended uses identified in the *Sonoma County General Plan* and Zoning Ordinance for this property.

CONSISTENCY WITH PUBLIC PLANS AND ZONING

For the most part, consistency with public plans and zoning for Alternative 4 would be similar to Alternative 3. With the reduction in the number of rooms to 24, except for the restaurant being open to the public by reservation, alternative 4 would be consistent with *Sonoma County General Plan policy LU-14r*. Since a specific development proposal is not available it would be speculative to determine consistency with other specific policies of the *Sonoma County General Plan* and provisions of the Zoning Ordinance.

For the most part Alternative 4 would be inconsistent with or require mitigation for consistency with the same *General Plan* policies with which the proposed project would be inconsistent. The major difference in regard to conformance with the *General Plan* between the proposed project and Alternative 4 would be related to the issue of intensification of uses on the project site. As discussed in **Chapter 4.0 Consistency with Public Plans and Zoning** the proposed project would potentially conflict with objectives OS-1.2, and OS-2.1 and policies OS-1b, OS-1c, OS-2c, AR-5e, and AR-6b due to the intensification of uses on the project site over the 1984 project. With a reduction in the

number of rooms to 24 there would be less intensification of uses. However, the restaurant open to the public may still be viewed as an intensification of use and thus potentially in conflict with objectives OS-1.2, and OS-2.1 and policies OS-1b, OS-1c, OS-2c, AR-5e, and AR-6b.

In regard to conformance with the Sonoma County Zoning Ordinance, similar to the proposed project, it is assumed that future development as envisioned by Alternative 4 would be able to easily conform to the requirements of this ordinance. If this alternative included building heights above 35 feet the Use Permit would need to include a request to exceed the 35 foot height limit.

Similar to the proposed project, with Alternative 4 the errors in the wording of *General Plan* policy LU-14r, the area designated Recreation and Visitor Serving Commercial for Graywood Ranch under both the *General Plan* and Zoning Ordinance and the area designated RRD 60 acre zoning would be corrected.

LAND USE

Similar to the proposed project compatibility with the adjacent private airstrip and with adjacent agriculture uses would be significant. With the reduced number of people on-site (due to the reduced number of rooms and elimination of the winery and special events, these land use compatibility issues would be somewhat less than the proposed project. Mitigation measures for this alternative would be similar to those required for the proposed project (see Mitigation Measures 5.1-1, 5.1-3, and 5.1-4).

Similar to the proposed project, growth inducing impacts would be less-than-significant.

TRAFFIC AND CIRCULATION

Alternative 4 would generate about 23 inbound and 14 outbound trips during the Friday AM peak hour, 19 inbound and 21 outbound trips during the Friday PM peak hour, and 16 inbound and 25 outbound trips during the Sunday PM peak hour. Exhibits 6.0-1, 6.0-2, 6.0-3 provide the results of intersection level of service analyses for Alternative 4 and all other alternatives.

Impact 5.2-1 would occur at the SR 12/Adobe Canyon Road intersection, but not at the SR12/Randolph Avenue intersection. Impact 5.2-2 would occur at both the SR 12/Randolph Avenue and SR 12/Adobe Canyon Road intersections. Impacts 5.2-4 and 5.2-5 would not occur. Impact 5.2-8 (over five seconds delay at the SR 12/Adobe Canyon Road intersection -- Sunday PM peak our) would still occur.

On-site impacts and mitigations for this alternative (such as project access road intersection impacts, roadway hazards, SR 12/project access road intersection safety impacts, internal pedestrian access, emergency access, parking supply, and road hazards) would be the same as for the proposed project, assuming a similar overall site design.

HYDROLOGY AND WATER QUALITY

Alternative 4 would have a similar impact on peak runoff as Alternative 3 (see Exhibit 6.0-4 and Alternative 3 discussion of Hydrology and Water Quality Impacts).⁴ Mitigation measures for developing a drainage plan and implementing BMPs to minimize changes to the peak flow would still be required (see Mitigation Measures 5.3-2 and 5.3-3). In addition, mitigation measures still would be required to prevent potential water quality and erosion and sedimentation impacts resulting from construction on the residential lots or other project-related activities (see Mitigation Measure 5.3-1).

WASTEWATER DISPOSAL

The commercial wastewater flows generated under this alternative would only be from the inn/spa/restaurant, and would be approximately 70 percent of those generated by the proposed project (see Exhibit 6.0-6). Unless mitigated through the use of nitrogen removal treatment systems (see Mitigation Measure 5.4-4), development of the Reduced Inn without Winery Alternative would still result in groundwater nitrate-nitrogen concentrations that would potentially reach or exceed the drinking water standard (10 mg-N/L) in the groundwater recharge area in the groundwater recharge area. While this alternative would impact the groundwater quality to a lesser extent than the proposed project, EIR mitigation measures still would be required to reduce the impact to less-than-significant. As can be seen from the results for an assumed effluent concentration of 15 mg-N/L in Exhibit 6.0-7, the groundwater nitrate concentrations can be reduced to safe levels (well below drinking water standards) if the FAST systems are designed and operated for nitrogen removal. Under this alternative, mitigations would still be required to reduce impacts from noncompliance with setback requirements for the leachfields serving residential lots 3 and 4 (see Mitigation Measure 5.4-3).

WATER SUPPLY

Under this alternative, the water demand from the Resort Well would be approximately 20 percent lower than that required by the Proposed Project (see Exhibit 6.0-5). Total water demand from the project under the Reduced Inn without Winery Alternative would be roughly two-thirds of that required by the proposed project. The use of the Winery Well would not be necessary, and the well could be abandoned or used as a back up well to the Resort Well. Pumping required by the Resort Well for the commercial development would be significantly reduced, and well interference effects on nearby neighboring wells would be lower than those resulting from the pumping rates by the Proposed Project. Similar to the proposed project potential impacts to neighboring wells and springs, groundwater recharge and aquifer level would be less-than-significant.

BIOLOGICAL RESOURCES

Potential impacts on biological resources under this alternative would be less significant than under the proposed project, due to a reduction in the extent of grading and associated loss of habitat. Structures, roadways, and parking associated with the winery and inn contribute to a large portion of the anticipated habitat modification from the project, and eliminating the winery and reducing the size

⁴ As noted in Exhibit 6.0-4, the projected increase in peak runoff for Alternative 4 would be less than Alternative 3 by a very small amount that is less than the degree of precision of the runoff calculation. From a hydrology standpoint, the difference between the two alternatives is not statistically significant.

of the inn would result in less tree removal and disturbance to native vegetation and wildlife habitat. The elimination of the winery and reduction in the size of the inn would provide additional opportunities to avoid mature trees and provide a larger setback from drainages which passes near the proposed inn and winery vicinity. Potential impacts on special-status species, sensitive natural communities, wetlands, and native habitat and wildlife movement opportunities could still be significant. Mitigation measure recommended to address anticipated impacts of the project as proposed would still be required under this alternative (see Mitigation Measures 5.6-1, 5.6-2, 5.6-3, and 5.6-4).

GEOLOGY/SOILS

This alternative would remove development within the alluvial lowland area, and the geology/soils impacts related to liquefaction (Impact 5.7-3), seismic ground settlements (Impact 5.7-4), lurching/ground cracking (Impact 5.7-5) and lateral spreading (5.7-6) would no longer be present unless septic systems would still extend into the lowland area. The remaining impacts would be similar to the proposed project. The site- and project-specific design level geotechnical investigations described in *Section 5.7 Geology/Soils* for the proposed project (see Mitigation Measures 5.7-2 and 5.7-7) would still be required for this alternative.

VISUAL AND AESTHETIC QUALITY

Visual impacts would be similar to Alternative 3. The elimination of the winery would not reduce the visual impact from viewpoint 3. This is due to the fact that the winery (in the proposed project plus Alternatives 2 and 3) would not be visible from that viewpoint (see Exhibit 5.8-10).

Similar to the proposed project, this alternative would result in new lighting sources on the project site, which together with other proposed development, could lead to increased light pollution. Mitigation measures for light pollution (Mitigation Measure 5.8-4) would still be required. This would remain a significant unavoidable impact.

CULTURAL RESOURCES

Similar to the proposed project, significant impacts to potential subsurface cultural resources could occur with the General Plan Alternative. Mitigation measures for cultural resources (Mitigation Measure 5.9-1) would still be required.

AIR QUALITY

With this alternative significant construction period air quality impacts and wood burning emissions would occur, similar to the proposed project. Mitigation measures for construction period air quality impacts (Mitigation Measure 5.10-1) and wood burning emissions (Mitigation Measure 5.10-4) would still be required.

NOISE

Without development of the winery and the events pavilion the noise impacts associated with the proposed project would not occur.

6.5 ALTERNATIVE SITES CONSIDERED BUT REJECTED AS INFEASIBLE

CEQA does not require an exhaustive analysis of alternatives but requires sufficient information to permit a reasonable choice among alternatives in order to compare environmental consequences. The reason for assessing any alternative to a proposed project -- whether on or off-site -- is to test the extent to which the project's significant adverse impacts could be substantially reduced or avoided. The reason for assessing off-site alternatives, in particular, is to evaluate the extent to which a project's significant adverse impacts -- implemented at the proposed site -- could be substantially reduced or avoided by implementation at *another* site. CEQA, the *State EIR Guidelines*, and judicial decisions have established the following three-step approach for evaluating alternative sites in EIRs.⁵

First step Determine the significant impacts of the proposed project. As noted above, the principal reason for analyzing off-site alternatives is to determine if "any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location."⁶ As shown in the summary of impacts attributable to the proposed project (Exhibit 2.2-1), a number of significant impacts would result from project implementation. This leads to the second step.

Second step Determine if feasible alternative locations exist. A "feasible alternative" is defined as one which can be "accomplished in a successful manner within a reasonable period of time, taking into account economic, legal, social, and technological factors."⁷ Factors considered in determining the feasibility of alternative sites include site suitability for development, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and the applicants' ability to acquire the sites. Candidate sites were identified as follows:

PRMD staff undertook an analysis to determine if there was a feasible alternative location for the proposed project.

Visitor serving uses in the unincorporated area are primarily accommodated in the Recreation and Visitor-Serving Commercial (RVSC) land use category where hotels, resorts and similar uses are allowed. There are relatively few areas in Sonoma County designated RVSC which can accommodate new uses of this nature. Most RVSC land accommodates existing uses.

In order to identify potential alternative locations County PRMD staff undertook a survey of Recreation & Visitor Serving Commercial (K) zoned property throughout unincorporated Sonoma County. Hotels, motels and similar lodging facilities, subject to certain limitations, are permitted in the K district with the issuance of a use permit. There are approximately 200 parcels zoned K in Sonoma County. Although a number of these parcels were determined to be vacant or possibly underutilized the majority of these are less than five acres. County staff identified ten potential off-site locations for the project. Each of these potential sites is zoned K, is vacant or underutilized, and is 20 acres or more in size. Twenty acres was determined to be the threshold to provide adequate space for the 50 room inn. Exhibit 6.0-8 shows the ten potential off-site locations consisting of 13 individual parcels.

⁵ The *State CEQA Guidelines*, Section 15126.6(f)(2) incorporate this three-step approach, based on *Citizens of Goleta Valley v Board of Supervisors ("Goleta II")*, 1990, 52 Cal.3d 553 [276 Cal.Rptr.410].

⁶ *Ibid.*, Section 15126.6(f)(2)(A).

⁷ *Ibid.*, Section 15364.

Third step Analyze the alternative sites. Each candidate site was reviewed against specific criteria to determine its appropriateness for further consideration as a feasible alternative site. A feasible site was defined as one which could achieve most of the basic objectives of the project and which could avoid or substantially lessen the significant impacts of the project as proposed.

The *State CEQA Guidelines* recognize that information about alternative sites' physical characteristics, including constraints, is limited. It normally is beyond the scopes of most EIRs to obtain and analyze information about environmental conditions of sites other than the project site. The *State CEQA Guidelines* direct EIRs to rely on available information (such as previous EIRs) to the extent possible but do not require EIRs to analyze alternative sites if the effects cannot be "reasonably ascertained and whose implementation is remote and speculative."

Conclusion -- After consideration of each of the ten alternative sites each site was rejected as infeasible. A summary of the constraints of each of the ten alternative sites is provided below.

Alternative Site 1 -- Adobe Creek Golf Club Use of this site for the 50-room inn would require either the removal or significant revisions to the Adobe Creek Golf Club. In addition, the designation of the site as a floodplain and the designation of Adobe Road as a Scenic Corridor would significantly constrain the location of the inn on the site. Furthermore, additional lands, currently designated by the *General Plan* as either Diverse Agriculture or Land Extensive Agriculture would need to be acquired to locate the winery and 11 residential units. Although both the Diverse Agriculture and Land Intensive Agriculture designations permit agricultural processing and visitor serving uses (to accommodate the winery, tasting room and possibly the special events) residential use of these areas would likely result in the loss of lands available for agricultural production.

Alternative Site 2 -- Infineon Raceway The Infineon Raceway has been in use for many years, and has been the subject of noise concerns for the nearest neighboring residences, which are few and relatively distant. Noise-related activities at the race track are closely regulated by the conditions of approval for the current land use permit, which require continuous noise monitoring at three locations. The noise monitoring data are summarized on a quarterly basis in a report to Sonoma County Permit Resource Management Department. Past reports have indicated that noise due to racing activities have been exceeded in nearby areas. Noise sensitive uses, such as the 50-room inn and the 11 residences would not be compatible in close proximity to the race track.

Alternative Site 3 -- Port Sonoma Development of a 50-room inn at this alternative site would conflict with *General Plan* policy LU 17h that prohibits permanent lodging facilities. Furthermore, the site has significant environmental constraints. The entire site is located in a floodplain (F2 zone) and a portion of the site along the Petaluma River is designated a Biotic Resource (BR zone). It also would be necessary to acquire additional land to accommodate the residential units. The surrounding property is designated Land Intensive Agriculture (100 acres per unit) and a Scenic Landscape Unit. Highway 37 is a Scenic Corridor. Although the Land Intensive Agriculture designation permits agricultural processing and visitor serving uses (to accommodate the winery, tasting room and possibly the special events) residential use of this area would likely result in the loss of lands available for agricultural production.

**EXHIBIT 6.0-8
ALTERNATIVE SITES**

Site No.	Assessor Parcel Number	Size (acres)	Address	Current Use	Notes
1	017 050 006 017 140-012	67.58 30.40	1901 Frates Road, Petaluma 800 Casa Grande Road, Petaluma	Site of 18 hole Adobe Creek Golf Club	Site is adjacent to the City of Petaluma. Surrounding land use designations include public / quasi-public, Diverse Agriculture (10 and 30 acres per unit) and Land Extensive Agriculture (60 acres per unit). The Petaluma Adobe State Historic Park is adjacent to the site. A portion of parcel 017 050 006 is in a floodway (F2 zone) of Adobe Creek.
2	068 100 024 068 150 055	94.14 371.74	7677 Lakeville Highway, Petaluma 29355 Arnold Drive, Sonoma	This is the site of the Infineon Raceway (formerly Sears Point Raceway)	Access is from State Route 121. General Plan designation is Recreation / Visitor Serving Commercial. (Specific Area Policy Applies) Property to the south and west has a General Plan designation of Land Extensive Agriculture (100 acres per unit). West of the site the agricultural land is scenic landscape unit. Subject to General Plan policy LU 17g.
3	068 140 026	110.21	270 Sears Point Road	Port Sonoma	Located on the southside of Highway 37. General Plan designation Recreation / Visitor-Serving Commercial (Specific Area Policy Applies) West and south of the site is the Petaluma River – surrounding land is designated Land Intensive Agriculture (100 and 60 acres per unit) East of the site Scenic Landscape Unit and critical Habitat (San Pablo Bay marsh lands). Petaluma River is designated as a critical habitat area. Surrounding agricultural land designated as Scenic Landscape Unit. Highway 37 is a Scenic Corridor Entire site is in a floodplain (F2) Subject to General Plan policy 17h.

EXHIBIT 6.0-8 (Continued)
ALTERNATIVE SITES

Site No.	Assessor Parcel Number	Size (acres)	Address	Current Use	Notes
4	106 190 009	23.55	No street address	Cazadero Baptist Encampment	<p>Located east of Austin Creek, floodplain, and Biotic Resource (BR) zone along Creek.</p> <p>Immediately south and north General Plan designation is Rural Residential (two units per acre to the south, xx units per acre to the north). East of the site General Plan designation is Resources and Rural Development 160 acres per unit.</p> <p>Austin Creek Road is a Scenic Corridor.</p> <p>Possible nearby plants Narrow Leaved Daisy CNPS 1B (1943) and Jepson's Linanthus CNPS 1B (1926)</p>
5	115 040 003	40.99	33555 Highway 128, Cloverdale	Current use is Trailer Park Resort	<p>North of Cloverdale (about 1 and ½ miles). Russian River is to the west and Highway 101 to the east. Part of site is in floodplain, Biotic Resource zone along Russian Rive (requires 200 foot setback). Scenic corridor setback along Highway 101 (requires 200 foot setback). Surrounding property has General Plan designation of Resources & Rural Development (some 120 acres per unit other 240 acres per unit). Preston Heights subdivision located across Highway 101.</p> <p>Russian River is designated as a Riparian Corridor.</p> <p>Possible location of Colvsa Layia CNPS 1B.</p> <p>Subject to General Plan policy 11e.</p>

EXHIBIT 6.0-8 (Continued)
ALTERNATIVE SITES

Site No.	Assessor Parcel Number	Size (acres)	Address	Current Use	Notes
6	115 090 011 115 090 014	18.59 14.91	No street address	Campground	<p>Located north of Cloverdale. Russian River runs through parcel 115-090-011. Highway 101 east of parcel 115-090-011.</p> <p>The N.W.P.R.R. right-of-way splits the two parcels. Parcels are in either the floodway or floodplain of the Russian River.</p> <p>Biotic Resources zone along Russian River (200 foot setback) and Scenic Resources along Highway 101 (200 foot setback).</p> <p>Subject to General Plan policy 11e.</p>
7	130 190 079	21.86	2881 Scotts Right of Way, Sebastopol	This is the site of the 18 hole Sebastopol golf course	<p>West of the Laguna de Santa Rosa, a portion of the site is in the floodplain.</p> <p>General Plan designation is Recreation / Visitor-Serving Commercial. Most of the surrounding area has a General Plan designation of Diverse Agriculture either 20 acres per unit or 40 acres per unit.</p> <p>Open Space designation to the south is Scenic Landscape Unit and to the east Critical Habitat Area.</p> <p>Surrounding parcels are generally small –Many less than two acres</p>
8	140 030 026	20.24	19055 Redwood Highway	This is the site of the Chateau Souverain Winery	<p>Access would be from Highway 101 at the Independence underpass via Souverain Road.</p> <p>General Plan designation is RVSC Immediate surrounding area is Land Intensive Agricultural (40 acres per unit). Further away is Resources & Rural Development (40 acres per unit).</p> <p>Site and surrounding area is designated as a scenic landscape unit.</p> <p>Subject to General Plan policy 11d.</p>

EXHIBIT 6.0-8 (Continued)
ALTERNATIVE SITES

Site No.	Assessor Parcel Number	Size (acres)	Address	Current Use	Notes
9	140 180 067 140 180 068	12.00 53.01	22281 Chianti Road	This is the site of the Geyser Peak Winery	<p>Site is just north of Geyserville. This is the site of the Geyser Peak Winery. Access is from Chianti Road via Canyon Road and Highway 101.</p> <p>General Plan designation is Recreation / Visitor-Serving Commercial. Generally north and west of the site General Plan designation is Land Intensive Agriculture (40 acres per unit) south is Resources & Rural Development (40 acres per unit).</p> <p>No open space designation on site areas north and south are designation Scenic Landscape Unit. Canyon Road and Highway 101 designation a Scenic Corridor.</p> <p>Subject to General Plan policy 11d and 11q</p>
10	133-130-007	177.13	17700 Arnold Drive	This is the site of the Sonoma National Golf Course.	<p>Site is west of Arnold Drive (Highway 116). Access is via Arnold Drive. Arnold Drive is a Scenic Highway Corridor.</p> <p>General Plan designation is Recreation / Visitor Serving Commercial. North and south of the site General Plan designation is Rural Residential (three acres per unit to the north, five acres per unit to the south). West of the site General Plan designation is Diverse Agriculture (20 acres per unit).</p> <p>A significant amount of the area north, south and west of the site has been subdivided in residential uses.</p>

Source: Nichols x Berman and Sonoma County PRMD

Alternative Site 4 -- Cazadero Baptist Encampment Use of this site for the 50-room inn would require the removal of the existing Cazadero Baptist Encampment. Furthermore, due to environmental constraints on the property (floodway of Austin Creek and biotic resources) the site may not have an adequate area to accommodate a 50-room inn. This site also has a high or moderate potential for landslides and a very high or high potential for large wildland fires. Furthermore, additional land would need to be acquired for the winery and related uses plus the residential portion of the proposed project. Lands to the east have a Resources and Rural Development General Plan designation with a 160 acres per unit requirement. Therefore, a significant amount of acreage, possibly up to 1,760 acres for the residential uses alone, would need to be acquired by the project applicant.

Alternative Site 5 -- Trailer Park Resort in Cloverdale Development of a 50-room inn at this alternative site would conflict with *General Plan* policy LU 11e which states that future uses on the site must be campground related. The site has significant environmental constraints. A portion of the alternative site is within the floodplain of the Russian River and is subject to a Biotic Resource zoning designation. The portion of the site fronting along Highway 101 is subject to a scenic corridor setback. The Northwestern Pacific Railroad (NWPRR) right-of way is immediately west of the Russian River. Nearby properties which would need to be acquired for the winery and related uses plus the residential units have a *General Plan* designation of Resources and Rural Development with either a minimum of 120 acres per unit or 240 acres per unit. Therefore, a significant amount of acreage, possibly up to 2,640 acres for the residential uses alone, would need to be acquired by the project applicant.

Alternative Site 6 -- Campground in Cloverdale Development of a 50-room inn at this alternative site would conflict with *General Plan* policy LU 11e which states that future uses on the site must be campground related. This site has significant environmental constraints which limit its feasibility as an alternative site for the 50-room inn. For example, both parcels are designated as either a floodplain or floodway of the Russian River. There is a Biotic Resources zone along the Russian River and a Scenic Resources zone along Highway 101. Furthermore, the NWPRR splits the two parcels further limiting the usability of the site for the 50-room inn. Additional lands would need to be acquired for the winery and related uses plus the residential uses.

Alternative Site 7 -- Sebastopol Golf Course The site is west of the Laguna de Santa Rosa, and a portion of the site is within the flood plain of the Laguna de Santa Rosa. Most of the surrounding area has a *General Plan* designation of Diverse Agriculture with a density designation of either 20 acres per unit or 40 acres per unit. However, the majority of the surrounding parcels are generally small, many less than two acres. Adjacent properties to the south have a *General Plan* Open Space designation of Scenic Landscape Unit and to the east of Critical Habitat Area. Use of this site for the 50-room inn would require either the removal of or significant revisions to the 18 hole Sebastopol golf course. Additional land would need to be acquired for the winery and related uses plus the residential portion of the proposed project. The existing small parcel sizes in the surrounding area would likely make land acquisition difficult.

Alternative Site 8 -- Chateau Souverain Winery Since the 20 acre site is already developed with a winery and other related facilities it is unknown if adequate land area remains for development of facilities as contemplated by the proposed *Sonoma Country Inn* project. Furthermore, since this site already contains a winery and restaurant it seems unlikely that the project applicant would be able to acquire a portion of the site for the construction of a second winery and restaurant. And, although *General Plan* policy LU 11d would permit lodging facilities on the site it would be speculative to conclude that the project applicant would be able to acquire a portion of the site for the construction of the proposed 50 room inn. Even if the applicant were successful in acquiring a portion of the site for the inn only such a project would not meet the applicant's objectives to construct an inn, spa, winery

and residential complex. Furthermore, additional lands, currently designated by the *General Plan* as Land Intensive Agriculture would need to be acquired to locate the 11 residential units. Use of lands designated Land Intensive Agriculture for residential use would result in the loss of lands available for agricultural production.

Alternative Site 9 -- Geyser Peak Winery Since this site already contains a winery and tasting room it seems unlikely that the project applicant would be able to acquire a portion of the site for the construction of a second winery and a restaurant. And, although General Plan policy LU 11d would permit lodging facilities on the site it would be speculative to conclude that the project applicant would be able to acquire a portion of the site for the construction of the proposed 50 room inn. Even if the applicant were successful in acquiring a portion of the site for the inn only such a project would not meet the applicant's objectives to construct an inn, spa, winery and residential complex. Additional lands would need to be acquired to locate the 11 residential units. Use of lands designated Land Intensive Agriculture for residential use would result in the loss of lands available for agricultural production. Generally north and west of the alternative site the *General Plan* designation is Land Intensive Agriculture (40 acres per unit); south of the site it is Resources & Rural Development (40 acres per unit). Use of lands designated Land Intensive Agriculture for residential use would result in the loss of lands available for agricultural production

Alternative Site 10 Sonoma National Golf Course Use of this site for the 50-room inn would require either the removal of or significant revisions to the existing Sonoma National Golf Course. Additional land would need to be acquired for the winery and related uses plus the residential portion of the proposed project. The existing small parcel sizes in the surrounding area would likely make land acquisition difficult.

Summary

Due to existing environmental constraints at the alternative sites it does not appear that development at any of the sites would avoid or substantially lessen the potential impacts of the proposed project while not also creating new potentially significant effects.

Furthermore, based on the information available, it can not be determined that the project applicant has the ability to acquire, control, or otherwise have access to any of the alternative sites. Since the project applicant does not own or control any of the alternative sites and since the applicant's ability to purchase any of the alternative sites is purely speculative it must be determined that no feasible alternative locations for the proposed project exist.

6.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The *State CEQA Guidelines* require that an EIR's analysis of alternatives identify the "environmentally superior alternative" among all of those considered. Based on the analysis of the project and the alternatives considered, the EIR finds that the *Alternative 1 (No Project Alternative)* would be the environmentally superior alternative.

Section 15126[d] of the *State CEQA Guidelines* states that if the environmental superior alternative is the No Project Alternative, the EIR shall also identify an environmental superior alternative among the other alternatives. Based on a comparison of the impacts of the build alternatives *Alternative 4 (Reduced Sized Inn without Winery)* would be the environmentally superior alternative.

A comparison of the environmental merits of each alternative is provided below.

LAND USE

The proposed project and each of the alternatives would have significant land use impacts. *Alternative 1 (No Project Alternative)* would have the least land use impacts since this alternative results in the least number of people on the site. *Alternative 2 (General Plan Alternative)*, *Alternative 3 (Reduced Sized Inn with Winery)*, and *Alternative 4 (Reduced Sized Inn without Winery)* would each have slightly less land use compatibility impacts than the *proposed project* due to the reduced number of people on the project site.

TRAFFIC AND CIRCULATION

Alternative 1 (No Project Alternative) would generate the least number of automobile trips, would not result in significant impacts to intersection levels of service during the Friday AM peak hour, Friday PM peak hour, or Sunday PM peak hour, and would not have any traffic impacts due to special events. *Alternative 4 (Reduced Sized Inn without Winery)* would have the same intersection impacts as *Alternative 3 (Reduced Sized Inn with Winery)* but would have the benefit of not having any traffic impacts related to special events. *Alternative 2 (General Plan Alternative)* would not result in impacts at the SR 12/Randolph Avenue intersection. The *proposed project* would result in the most traffic and circulation impacts.

HYDROLOGY AND WATER QUALITY

Alternative 1 (No Project Alternative) would have the smallest increase in peak runoff over existing conditions in Subwatershed 1, Drainage 2a, and Drainage 1a. *Alternative 3 (Reduced Sized Inn with Winery)* and *Alternative 4 (Reduced Sized Inn without Winery)* would have the same amount of runoff in Subwatershed 1 and Drainage 1a as the *proposed project* but would have less runoff in Drainage 2a than the *proposed project*. The increase in runoff from *Alternative 2 (General Plan Alternative)* would depend on in which drainage area the two additional residential units are located.

WASTEWATER

By eliminating the need for commercial wastewater disposal, *Alternative 1 (No Project Alternative)* would avoid any impacts to groundwater quality in the groundwater recharge area. The *proposed project* and *Alternative 2 (General Plan Alternative)*, *Alternative 3 (Reduced Sized Inn with Winery)*, and *Alternative 4 (Reduced Sized Inn without Winery)* would require the use of nitrogen removal treatment systems.

WATER SUPPLY

Alternative 1 (No Project Alternative) would only require water for residential landscaping and domestic use. *Alternative 1* would not require the use of the Winery Well. The Winery Well would also not be necessary for *Alternative 4 (Reduced Sized Inn without Winery)*. Potential impacts to neighboring wells and springs, groundwater recharge and aquifer level for the *proposed project* and each of the alternatives would be less-than-significant.

BIOLOGICAL RESOURCES

Alternative 1 (No Project Alternative) would have the least impacts on biological impacts due to the least extent of grading and associated loss of habitat. With the elimination of winery and reduction in the size of the inn *Alternative 4 (Reduced Sized Inn without Winery)* would provide greater opportunities to avoid mature trees and provide a larger setback from drainage which passes near the proposed inn and winery vicinity than the *proposed project* and Alternatives 2 and 3. Potential impacts to biological resources for *Alternative 3 (Reduced Sized Inn with Winery)* would be slightly less than the proposed project due to a reduction in the size of the proposed inn. Biological resources impacts for *Alternative 2 (General Plan Alternative)* would be similar to the proposed project.

GEOLOGY/SOILS

Both *Alternative 1 (No Project Alternative)* and *Alternative 4 (Reduced Sized Inn without Winery)* would remove development within the alluvial lowland area and the geology/soils impacts related to liquefaction, seismic ground settlements, lurching/ground cracking and lateral spreading would not occur. Geology/soils impacts for the *proposed project*, *Alternative 2 (General Plan Alternative)*, and *Alternative 3 (Reduced Sized Inn with Winery)* would be similar.

VISUAL AND AESTHETIC QUALITY

Without the inn/spa/restaurant *Alternative 1 (No Project Alternative)* would result in the least amount of visual impacts from the three viewpoints. Both *Alternative 3 (Reduced Sized Inn with Winery)* and *Alternative 4 (Reduced Sized Inn without Winery)* would result in a reduction in the size of the inn by reducing the number of guest cottages. As a result the visual impact of *Alternative 3* and *Alternative 4* from viewpoint 3 would be less than the *proposed project*. With *Alternative 2 (General Plan Alternative)* the size of the inn would be reduced from the proposed project and therefore the visual impact from viewpoint 3 would be slightly less than the proposed project.

CULTURAL RESOURCES

Cultural resource impacts would be similar for the proposed project and all of the alternatives.

AIR QUALITY

Air quality impacts would be similar for the proposed project and all of the alternatives.

NOISE

Without the development of the winery and events pavilion *Alternative 1 (No Project Alternative)* and *Alternative 4 (Reduced Sized Inn without Winery)* would not have the noise impacts associated with the *proposed project*, *Alternative 2 (General Plan Alternative)*, or *Alternative 3 (Reduced Sized Inn with Winery)*. Noise impacts would be similar for the proposed project and Alternatives 2 and 3.

7.0 IMPACT OVERVIEW

7.1 GROWTH INDUCING IMPACTS

Growth inducing impacts are evaluated in **Section 5.1 Land Use** Impact 5.1-5. It was found that development of the *Sonoma Country Inn* project would not remove obstacles to growth, would not set a precedent for similar future projects, nor lead to enlarged public services. Accordingly the *Sonoma Country Inn* project would have less-than-significant growth inducing impacts.

7.2 CUMULATIVE IMPACTS

This EIR assesses the effects of implementing the proposed project under existing environmental conditions and under anticipated future conditions. Future cumulative conditions are discussed in **Section 3.3 Cumulative Development Assumptions** and where appropriate under the cumulative impact analysis for each topic of analysis. The list of cumulative projects includes 12 projects that are approved, under review, or under construction, or are reasonably expected to be proposed in the vicinity of the *Sonoma Country Inn* project site at the time Sonoma County issued the Notice of Preparation to prepare a Draft EIR for the proposed project. The locations of the cumulative projects are shown in Exhibit 3.0-19. A summary of the cumulative impacts is provided below.

- x Cumulative projects within the area could result in increased conflicts with agricultural uses. The project's contribution to the cumulative impacts would not be cumulatively considerable and therefore this cumulative impact would be less-than-significant. (*Impact 5.1-5*)
- x The project traffic contribution to cumulative (year 2012 plus project) traffic volumes would result in five seconds or more increase in average control delay for critical movements at the SR 12 intersections with Adobe Canyon Road and Randolph Avenue where base case conditions are at LOS F. This would be a significant cumulative impact. The project traffic contribution to year 2012 cumulative volumes at the SR 12/Randolph Avenue intersection would add to Friday AM peak hour approach volumes meeting rural signal warrant levels. This would be a significant cumulative safety impact. (*Impact 5.2-2*)
- x The project increment (project average size special event traffic) of cumulative condition (year 2012-plus-project with average size special event traffic) would increase average control delay for critical movements by more than 5 seconds at the SR 12 intersections with Lawndale Road, Adobe Canyon Road, and Randolph Avenue where base case conditions are at LOS F. This would be a significant cumulative impact. (*Impact 5.2-4*)
- x Cumulative event traffic volumes would result in significant additional delays at the Randolph Avenue, Adobe Canyon Road, and Lawndale Road SR12 intersections operating at LOS F. This would be a cumulative significant impact. The project impact would be cumulatively considerable.
- x Cumulative projects within the area could exacerbate existing flooding problems along Sonoma Creek, increase erosion, and degrade water quality in the Sonoma Creek Watershed and its developed subwatersheds. Although the proposed project's impact on downstream flooding

would be small, its contribution would represent part of the cumulative impact of all of the projects combined; this would be a significant cumulative impact. The project's contribution to the cumulative water quality and erosion impacts would be less than cumulatively considerable after incorporating mitigation measures required by the EIR. (*Impact 5.3-8*)

- x Potential cumulative impacts that may arise from the use of on-site sewage disposal systems relate specifically to changes in groundwater hydrology or water quality. Background nitrate levels in the cumulative study area are relatively low compared to the drinking water standard (10 mg/L), and it is unlikely that additional nitrate loading from wastewater disposal would significantly increase regional groundwater nitrate concentrations. Cumulative impacts to groundwater hydrology and water quality would therefore be less-than-significant. Further, the proposed project's contribution to any potential cumulative impacts would be less than considerable, due to mitigation measures required by the EIR, and, therefore, the cumulative impact would be less-than-significant. (*Impact 5.4-6*)
- x Nearly all of the cumulative projects or portions thereof, are located in the groundwater recharge area and major groundwater basin (Class I groundwater area) that underlies the flatter topography of the valley. The cumulative loss of recharge area would decrease the amount of water recharging to this water source; however, the overall effect would be small. The pumping tests and analysis of drawdown effects for the Sonoma Country Inn water supply wells indicate that the impact to nearby wells would be less-than-significant. Any interference effects on wells (existing or new) located at greater distances from the project wells would be negligible because of the exponential decline in impact with distance. Groundwater recharge and well interference effects from the proposed project would be less than cumulatively considerable and therefore a less-than-significant impact (*Impact 5.5-5*)
- x With implementation of required mitigation measures the proposed project would not contribute to a cumulative significant loss of woodland, forest, and grassland habitat in the northeastern area of the Sonoma Valley. (*Impact 5.6-5*)
- x Implementation of the proposed project would result in new lighting sources on the project site, which together with other proposed development, could lead to increased light pollution. This would be a significant cumulative impact. (*Impact 5.8-4*)
- x Year 2012 cumulative traffic plus project traffic plus special events traffic at all area wineries would contribute to local carbon monoxide concentrations but these cumulative impacts would be less-than-significant. (*Impact 5.10-2*)

These impacts are described in detail in *Chapter 5.0 Environmental Setting, Impacts, and Mitigation Measures*

7.3 SIGNIFICANT UNAVOIDABLE IMPACTS

This section identifies impacts that could not be eliminated or reduced to an insignificant level by mitigation measures included as part of the proposed project or other mitigation measures which could be implemented. These impacts are described in detail in *Chapter 5.0 Environmental Setting, Impacts, and Mitigation Measures*.

5.1-1 Conflict with Applicable Land Use Plan, Policy, or Regulation Implementation of the proposed project would result in potential conflicts with the *Sonoma County General Plan* and

North Sonoma Valley Specific Plan, resulting in adverse physical effects. The physical effects resulting from the conflict with *Sonoma County General Plan* Objective CT-2.2 would not be reduced to a less-than-significant level. This would be a significant unavoidable impact.

5.2-1 2005 Intersection Operation with Project and No Special Events Year 2005 base case-plus-project volumes would result in five seconds or more increase in average control delay for critical movements at the SR 12 intersections with Adobe Canyon Road and Randolph Avenue where base case conditions are at LOS F.

5.2-2 2012 Intersection Operation with Project and No Special Events The project traffic contribution to cumulative (year 2012 plus project) traffic volumes would result in five seconds or more increase in average control delay for critical movements at the SR 12 intersections with Adobe Canyon Road and Randolph Avenue where base case conditions are at LOS F. This would be a significant cumulative impact. The project traffic contribution to year 2012 cumulative volumes at the SR 12/Randolph Avenue intersection would add to Friday AM peak hour approach volumes meeting rural signal warrant levels. This would be a significant cumulative safety impact.

5.2-4 2005 Intersection Operation with Proposed Project and Average Size Special Event Year 2005 base case-plus-project-plus-project with average size special event traffic would increase average control delay for a critical movement by more than five seconds at the SR 12 intersection with Adobe Canyon Road where the base case-plus-project condition is LOS F.

5.2-5 2012 Intersection Operation with Proposed Project and Average Size Special Event The project increment (project average size special event traffic) of cumulative condition (year 2012-plus-project with average size special event traffic) would increase average control delay for critical movements by more than five seconds at the SR 12 intersections with Lawndale Road, Adobe Canyon Road, and Randolph Avenue where base case conditions are at LOS F.

5.2-8 SR 12 Operating Conditions with Cumulative Average Size Special Events Cumulative event traffic volumes would result in significant additional delays at the Randolph Avenue, Adobe Canyon Road, and Lawndale Road SR12 intersections operating at LOS F. This would be a cumulative significant impact. The project impact would be cumulatively considerable. If mitigation is determined to be infeasible this would be a significant cumulative unavoidable impact.

5.8-4 Light Pollution Implementation of the proposed project would result in new lighting sources on the project site, which together with other proposed development, could lead to increased light pollution. This would be both a significant project impact and a significant cumulative impact.

7.4 EFFECTS OF NO SIGNIFICANCE

As discussed in *Chapter 1.0 Introduction*, the scope of the EIR was determined through a process that included the preparation of an Initial Study in April 2002. The Initial Study concluded that an EIR would be required for the project and identified a number of topics for analysis in the EIR. Responses to the Notice of Preparation (NOP) further refined the scope of the EIR, as did comments made during the public scoping process. Based on this scoping process and the analyses prepared as part of this EIR it has been determined that a number of potential impacts of the *Sonoma Country Inn* project are not significant.

The following topics were dismissed from further analysis by the Initial Study which determined that the project's effects would be less-than-significant with respect to: ¹

1. Aesthetics

- b. Substantially damaging scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.
- d. Creating a new source of substantial light or glare that would adversely affect day or nighttime views in the area. ²

2. Agricultural Resources

- a. Converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

3. Air Quality ³

- a. Conflicting with or obstructing implementation of the applicable air quality plan.
- b. Violating any air quality standard or contributing substantially to an existing or projected air quality violation.
- c. Resulting in a cumulatively considerable net increase of any criteria pollutant for the project region, leading to non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- d. Exposing sensitive receptors to substantial pollutant concentrations.
- e. Creating objectionable odors affecting a substantial number of people.

4. Biological Resources

- e. Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f. Conflicting with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

¹ Under the County's CEQA procedures impacts identified as "less than significant with mitigation incorporated" and "less than significant" do not require additional analysis in the EIR. Numbers refer to items on the County's Initial Study prepared for this project (see *Appendix 8.4 Initial Study*). The Initial Study describes the reasons for determining that the project would result in a less-than-significant impact and the mitigation measures required to be incorporated into the project. *Sonoma Country Inn Environmental Checklist Form*, County of Sonoma, April 26, 2002.

² Subsequent to the preparation of the Initial Study it was decided to conduct further analysis of light pollution issues in the EIR (see *Section 5.8*)

³ Subsequent to the preparation of the Initial Study it was decided to conduct further analyses of air quality issues in the EIR (see *Section 5.10*).

5. Cultural Resources

- a. Causing a substantial adverse change in the significance of a historic resource as defined in §15064.5.
- c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

6. Geology and Soils

- a. Exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - i Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.
 - ii Strong seismic ground shaking.
 - iii Seismic-related ground failure, including liquefaction.
- d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

7. Hazards and Hazardous Materials

- a. Creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- b. Creating a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials (including, but not limited to, oil, pesticides, chemicals, or radiation) into the environment.
- c. Emitting hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- d. Being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, creating a significant hazard to the public or the environment.
- e. For a project within the vicinity of a private airstrip, resulting in a safety hazard for people residing or working in the project area.
- f. Impairing implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- g. Exposing people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

8. Hydrology and Water Quality

- d. Substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increasing the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
- g. Placing housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- h. Placing within a 100-year flood hazard area structures which would impede or redirect flood flows.
- i. Exposing people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.
- j. Exposing people or structures to inundation by seiche, tsunami, or mudflow.

9. Land Use and Planning

- a. Physically divide an established community.
- c. Conflicting with any applicable habitat conservation plan or natural community conservation plan.

10. Mineral Resources

- a. Resulting in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the state.
- b. Resulting in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

11. Noise ⁴

- a. Exposing persons to, or generating noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- b. Exposing persons to or generating excessive groundborne vibration or groundborne noise levels.
- c. Causing a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- d. Causing a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- e. For a project within the vicinity of a private airstrip, exposing people residing or working in the project area to excessive noise levels.

⁴ Subsequent to the preparation of the Initial Study it was decided to conduct further analyses of noise issues in the EIR (see *Section 5.11*).

12. Population and Housing

- a. Inducing substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).
- b. Displacing substantial numbers of existing housing stock, necessitating the construction of replacement housing elsewhere.
- c. Displacing substantial numbers of people, necessitating the construction of replacement housing elsewhere.

13. Public Services

- a. Resulting in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for:

- Fire protection
- Police protection
- Schools
- Parks
- Other public facilities

14. Recreation

- a. Increasing the use of existing neighborhood or regional parks, or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- b. Including recreational facilities or requiring the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

15. Transportation/Traffic

- c. Resulting in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- e. Resulting in inadequate emergency access.
- f. Resulting in inadequate parking capacity.
- g. Conflicting with adopted policies, plans, or programs supporting alternative transportation (such as bus turnouts, bicycle racks).

16. Utilities and Service Systems

- e. Resulting in a determination by the Sonoma Valley County Sanitation District that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- f. Being served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

- g. Complying with federal, state, and local statutes and regulations related to solid waste.

8.0 APPENDICES

8.1 REPORT PREPARERS

This EIR was prepared by an environmental study team led by Nichols x Berman under contract to Sonoma County. The analyses were coordinated primarily with Tim Mayer, County's Environmental Review Manager and Paula Stamp, AICP, Senior Environmental Specialist.

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1. General Plan Amendment to revise the language of Area policy LU-14r

From: *The "Diverse Agriculture" and "Recreation and Visitor Serving Commercial" designations applied to Graywood Ranch (APN 51-020-06, 10, 19, 32 and 33 and 51-010-13 and 17) are intended to accommodate an approved development consisting of 18 residential parcels, a 35 (actually 36) - room hotel and a winery, each on separate parcels, an agricultural parcel and a residual parcel. It is the intent of the General Plan to:*

- (1) *exempt these parcels from the 10 acre minimum lot size requirement of the "Diverse Agriculture" land use category; and*
- (2) *allow modification of the size and location of these parcels without further amendment of the land use map.*

Any proposal to increase the total number of lots or the size of the hotel shall require a general plan map and/or text amendment.

To: *The "Diverse Agriculture", "Resource and Rural Development", and "Recreation & Visitor Serving Commercial" designations applied to the Graywood Ranch (APN 051-020-006, 010, 019, 032, 043, 045; 051-101-013, 017) are intended to accommodate an approved development consisting of the following:*

1. *For the easterly 177+/- acres as shown on the approved Development Plan/Tentative Map:
-a maximum of 11 residential lots of varying acreage with one primary single family dwelling each
-50 room inn with restaurant open to the public within approximately 20+/- acres of K (Recreation and Visitor Serving Commercial) zoning and on its own parcel
-Winery with incidental retail sales, public tasting, and special events and on its own parcel*
2. *For the westerly 300+/- acres:
-a maximum of 6 residential lots of varying acreage including 4 existing dwelling units*

This General Plan policy is intended to supersede that policy of the same number (LU-14r); this new policy wording is intended to acknowledge the project described above and as approved by the Board of Supervisors on_____.

2. Specific Plan Amendment to revise the North Sonoma Valley Specific Plan Land Use map on 20 acres located on a portion of the proposed Inn Parcel, Parcel B from "Open Land and Residential" designation to the "Recreation" designation.

3. Use permit for:

A 50-room inn with accessory retail shops, administrative offices, meeting rooms, and swimming pool, including a main lodge building and 24 cabins/cottages, occupying approximately 85,000 square feet. The inn has a projected occupancy of 100 persons, 119 employees (average 55 on site), and 102 parking spaces;

A spa, for guests and open to the public by reservation, in a separate spa building with 8 individual treatment rooms in separate cottages, and several hot tubs and small pools. Parking is shared with the Inn;

A restaurant with seating capacity of 75 inside and 50 outside (125 total seats), accessory lounge serving inn guests and open to the public by reservation. Parking is shared with the Inn; and

A winery, open to the public, with annual production capacity of 40,000 cases per year, with tasting room, wine retail sales, events area, and a separate "Country Store" selling Sonoma County produce, foods, and assorted gift items. The winery and accessory buildings will occupy approximately 40,000 square feet. The project proposes 30 special events per year with maximum 200-person attendance, to include weddings, meetings, winemaker dinners, and charitable auctions. Parking for the winery/events area consists of 147 spaces, and includes parking for visitors, inn and winery area employees, and could accommodate public trail parking.

4. Zone Change on 292 acres from DA-B7-SR (Diverse Agriculture, Frozen Lot Size, Scenic Resource) to DA-B6-SR, 17 Acre Density to consider a subdivision because the previously approved tentative map expired.
5. Lot line adjustment to divide the Graywood Ranch into two separate ownerships along the entry/access road and northward (Lot "D"), as determined by a court judgment, and to reconfigure three lots from this portion of the property's four existing lots. The winery parcel (Lot "A") lies behind the valley flatlands, at the grassland-forest interface below the toe of the slope to the plateau. The 51-acre inn/spa lot (Lot "B") includes a portion of the plateau area, and a large portion of the flat valley lands adjacent to Sonoma Highway. Lot "C" encompasses the area proposed for residential development, including a portion of the slopes surrounding the plateau, and the upper (far northern) portion of property.
6. Subdivision of 115.75 acres into eleven (11) residential lots, all but one ranging in size from 3-6 acres. One lot is proposed to be ± 71 acres, encompassing the upper portion of the property north of the Rancho Los Guilicos land grant line. Five of the residential lots lie in the northern portion of the plateau area, in thick, closed canopy forest. Two of the lots lie at the western edge of the plateau along the ridge above the steep slopes falling to the valley floor, and two lots lie at the plateau's eastern edge. One lot lies midslope, forward of the plateau, and another lies at the toe of the slope, generally east of the winery area.
7. The offer of a public trail easement, dedicated to the county, connecting Hood Mountain County Park down to the valley floor and Highway 12 (also known as Sonoma Highway) through this portion of the Graywood Ranch property, with public parking located in the winery/events area.
8. Technical Correction to General Plan Land Use Map 9 to increase the area designated "Recreation & Visitor Serving Commercial" from approximately five acres on APN 051-020-019 to 20 acres located on a portion of the proposed Inn Parcel, Parcel B

Technical correction to zoning map on 164.32 to agree with General Plan density from RRD (Resources and Rural Development)-B6 60 acre density to RRD-B6 100 acre density

Technical Correction to zoning map to increase the area zoned "K-Recreation & Visitor Serving Commercial" from approximately five acres on APN 051-020-019 to 20 acres located on a portion of the proposed Inn Parcel, Parcel B

SURROUNDING LAND USES AND SETTING: (Briefly describe the project's surroundings)

North: The project is bounded to the north by Hood Mountain County Park, containing primarily chaparral-covered slopes, with some mixed hardwood forest.

West: To the west lies the remainder of the original Graywood Ranch, with open grasslands, riparian forest, mixed hardwood forest, and 3-4 existing residences.

East: To the east lie assorted private lands containing vineyards, private homes, and forested land.

South: Highway 12 (Sonoma Highway) lies to the south, with privately owned parcels across the highway containing orchards and other farmlands.

Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):

Bay Area Regional Water Quality Control Board (Wastewater Discharge Permit/Section 401 Certification)
California Department of Fish & Game (1603 Permit)
Army Corps of Engineers (Section 404)
State Department of Health Services through Sonoma County Health Department(Public Water Supply Permit/Public Pool Permit/Retail Food Permit/Hazardous Materials Business Plan)
California Department of Transportation (Encroachment Permit)

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would have at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

<input checked="" type="checkbox"/> Aesthetics	<input checked="" type="checkbox"/> Agricultural Resources	<input type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input checked="" type="checkbox"/> Geology/Soils
<input type="checkbox"/> Hazards & Hazardous Materials	<input checked="" type="checkbox"/> Hydrology/Water Quality	<input checked="" type="checkbox"/> Land Use and Planning
<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Noise	<input type="checkbox"/> Population/Housing
<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation	<input checked="" type="checkbox"/> Transportation/Traffic
<input checked="" type="checkbox"/> Utilities/Service Systems	<input checked="" type="checkbox"/> Mandatory Findings of Significance	

DETERMINATION:

On the basis of this initial evaluation:

The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Incorporated Source Documents

In preparation of the Initial Study checklist, the following documents were referenced/developed, and are hereby incorporated as part of the Initial Study. All documents are available in the project file or for reference at the Permit and Resource Management Department.

Project Application and Description, including 2 addendums dated August 15, 2001 and February, 2002 and Tentative Map
 Initial Data Sheet
 Sonoma County General Plan and Associated EIR
 Specific or Area Plan North Sonoma Valley Specific Plan
 Sonoma County Zoning Ordinance
 Project Referrals from Responsible Agencies
 State and Local Environmental Quality Acts (CEQA)
 Correspondence received on project (traffic study, archaeological study, wastewater feasibility study and supplemental report, and visual analysis)

EVALUATION OF ENVIRONMENTAL IMPACTS:

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: "Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses" may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and

b) the mitigation measure identified, if any, to reduce the impact to less than significant.

ENVIRONMENTAL IMPACTS:

1. AESTHETICS. *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<u>X</u>	—	—	—
b) Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	—	—	<u>X</u>	—
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<u>X</u>	—	—	—
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	—	<u>X</u>	—	—

Comment:

1.a. Potentially Significant. The Sonoma Country Inn project is located on lands designated as a Scenic Resource (SR) district, with the lands designated as Scenic Landscape Unit, Community Separator Area, and Scenic Corridor in the Sonoma County General Plan, Open Space Element, Figure OS-2. The project proposes to develop an inn/restaurant with a main lodge and 19 separate cottage structures (with 5 one-story structures proposed as double, attached cottages, for an actual total of 24 cottages), a spa with several individual treatment cottages, and nine single-family residences on the plateau area above the valley floor, which is designated as a Scenic Landscape Unit. The winery-events area and two additional residences would be located within the Scenic Landscape Unit, at midslope and at the toe of the slope to the plateau, possibly also within the Community Separator Area that covers the valley floor.

The Zoning Ordinance states that the purpose of the SR district is to preserve the visual character and scenic resources of lands in the county and to implement provisions of Sections 2.1, 2.2, and 2.3 of the general plan open space element. It also states that in community separators and scenic landscape units, all structures shall be sited below exposed ridgelines; natural landforms and existing vegetation shall be used to screen structures and driveways from public view; cuts and fills are discouraged; and utilities should be placed underground. In addition, building envelopes shall be established, use of height limitations should be considered, clustering shall be used to reduce visual impacts, building sites and roads shall be located to preserve trees and tree stands, and dedication of permanent scenic or agricultural easements shall be required at the time of subdivision. The General Plan open space element, Section 2.2 calls for retention of the largely open, scenic character of scenic landscape units, as they provide scenic backdrops to communities and important visual relief from urban densities.

Vegetation, including oak woodlands and mixed hardwood/conifer forest, covers much of the areas where development is proposed, and this may screen the majority of the proposed development. However, the area is a high fire hazard area, and cutting and thinning of the forest in the vicinity of the development will be required as part of a fire management plan. In particular, many conifers will need to

be completely removed from fire management areas, while portions of the remaining oak and madrone forest will require canopy separation by a minimum of 10-15 feet between the crowns of trees, as well as canopy thinning. In addition, removal of portions of the forest could occur in order to provide valley views for the hotel and residences on the plateau. The combination of fire/vegetation management and opening up the forest to achieve views of the valley floor could cause some of these buildings to be visible from the Sonoma Highway, Lawndale Road, and Adobe Canyon Road, which could significantly affect scenic vistas.

The project has designated building envelopes for each of the private lots as required by the Scenic Resources District and general plan, however the project description does not specifically limit building heights (except for stating "design the Inn/Restaurant with relatively low profiles..."). Nor does the project currently propose to place protective open space easements over any visible portion of the property, except on the large valley oak trees on the flatlands and a portion of the uppermost slopes where a rare plant exists. The majority of building envelopes are shown on the Tentative Map at approximately 15,000-20,000 square feet (.34-.46 acre) in size. Because many of the residential building envelopes and inn cottages are located at the edge of the plateau adjacent to steep slopes, the fire management areas on the slopes may require cutting and thinning some of the forest that is currently designed to screen the development. This may conflict with the General Plan policy that building sites shall be located to preserve trees and tree stands, depending on the extent of the vegetation removal. If this project is considered in light of the proposed Graywood Ranch Subdivision project immediately to the northwest, there may be cumulative impacts.

On the valley floor, within the scenic corridor and community separator, the project proposes to preserve the large valley oak trees with protective easements, using the area within 1200 feet of Highway 12 as agricultural land. This area is currently in mixed grasslands with remnant stands of valley oak, exhibiting significant wildflower displays during the spring. The agricultural use is consistent with uses throughout the valley in the community separator and scenic corridor, and would be consistent with the retention of the valley's visual integrity. The project does not currently include placing the agricultural flatlands within an agricultural easement.

In the winery area, which is located approximately 1500 feet and further from Highway 12, existing stands of trees in oak riparian woodland and at the forest-grassland interface would screen a portion of the winery/events area, essentially eliminating potential impacts to the scenic vista. Wineries are common on the valley floor through this visually-sensitive area between Agua Caliente and Santa Rosa, and appear to be consistent with the local character, especially when they are set back from the highway as this project would be (similar to Chateau St. Jean, Kenwood Winery, and the St. Francis Winery). The parking area for the winery is proposed to be within the oak woodland to the west of the winery, and could require removal of a significant portion of the woodland, which could potentially affect the visual character of the area. Addendum #2, submitted to the County in mid-March 2002, shows a revision of the parking lots that appears to protect the majority of the visible oak woodland. Oak woodlands are an important component of the historic rural character of the Sonoma Valley (and the County in general), and as such, are a scenic resource that should be preserved wherever possible.

A visual analysis submitted by the applicant presents photographs of existing conditions and simulations of impacts caused by project structures. The project (main lodge, some of the cottages, and at least one house) would be visible from the southwest of the project site, where development on the plateau area would be seen from Highway 12 through Kenwood, as well as from Adobe Canyon Road. Areas of the plateau are currently exposed to the south/southwest, with a limited tree screen to block views to the development, therefore the design of the development will be critical in ensuring compatibility with the surroundings. Two homes on the western edge of the plateau may be visible from the west and northwest and homes on the eastern edge of the plateau may be visible to the southwest. The visual analysis assumes that most of the forest would remain in place, and that all but three homesites would be completely obscured by forest screening. Given the possibility that thinning for vegetation (fire) management may remove some of the screening qualities of the forest, and that opening up the forest

to obtain views for at least six homes, as well as the majority of the hotel cottages, is likely to occur unless such occurrences are regulated, it appears that impacts could potentially be greater than anticipated by the visual projections. In addition, there are 24 inn cottages proposed for the site. Some would be located at the edge of the plateau where they would be visible from Sonoma Highway or Adobe Canyon Road. The visual analysis does not show all of the cottages that are likely to be visible from public roads, in particular cottage/ suites that are on the ridgepoint in the center of the property (the westernmost cottages). The number of cottages and their spread along the edge of the ridge of the plateau could cause a significant impact on the viewshed. Fire management will require removal of many conifers within 150 feet of the cottages, possibly increasing the visual impact.

Not enough information exists to conclude that the impacts will be reduced to less than significant. Further analysis to determine the actual effects is necessary. This analysis must consider the effects of vegetation removal for fire management or for providing views from building sites.

- 1.b. Less than Significant Impact.** The valley oak trees that are within the viewshed of Sonoma Highway are proposed for retention and preservation in a protective easement. Project development located greater than 1500 feet from the highway is expected to cause less than significant impacts to the visual integrity of the scenic corridor, and/or to the view of valley oak trees. Cumulatively, more area along this corridor is converting to vineyard over time, reducing the amount of oak woodlands, riparian areas, and diverse agriculture such as orchards or grazed lands. The area that is open (currently ungrazed) grassland would be suitable for such an agricultural use.
- 1.c. Potentially Significant Impact.** As discussed in item 1.a, more visual analysis is needed to determine whether the majority of development would be screened from the valley floor. In addition to the analysis described in item 1.a, there should be analysis of the removal of trees within the oak woodland in the winery area to accommodate the parking lots and winery/events area.
- 1.d. Less than Significant with Mitigation Incorporated.** The hotel project and most of the residences are located on the plateau area, and lighting could be highly visible from the valley floor at night. Regulating lighting from residences, once constructed, would be difficult. The project description includes guiding principles designed to minimize lighting impacts on the environment, and Addendum #2 includes points of design intent for lighting plans for development onsite, and specific language on lighting to be included in the CC&Rs for residential development. Implementing the following measures would ensure that impacts from lighting will be less than significant.
- 1.d Mitigation Measures:**
- 1) The "regulating intent" requirements on lighting listed in Addendum #2 to the project application shall be used to guide the design and review of lighting plans, and implemented throughout the site. The language in Addendum #2 under the CC&Rs "Lighting Element" shall be incorporated into the CC&Rs for the project site.
 - 2) A lighting plan designed to minimize light spillage from the site and observing these measures shall be prepared, and shall be reviewed and approved by the Design Review Committee prior to building permit issuance.
 - 3) All outdoor lighting, including inn and winery-related lighting, shall be non-intense and/or lower wattages, with all light sources shielded, and light cast downward onto the ground. No light shall be allowed to spill offsite or into forest wildland areas. No landscape uplighting shall be used in areas potentially visible to the valley floor. Landscape screening shall be used to shield the potential spillage of light from built-up areas. Parking lot lighting shall be placed low to the ground.
 - 4) Outdoor lighting at the winery shall be kept to a minimum when the winery is closed, with parking lot lights turned off, and security lighting kept at low-intensities.

2. AGRICULTURAL RESOURCES

Potentially

Less Than

Less than

No

	Significant Impact	Significant With Mitigation Incorporation	Significant Impact	Impact
<p>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. <i>Would the project:</i></p>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	—	—	—	X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	X	—	—	—
c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use?	X	—	—	—

Comment:

2.a. No Impact. No prime, unique or statewide important farmlands are mapped on this property. The California State Department of Conservation Important Farmland maps have mapped the property as “Farmlands of Local Importance” in the flatlands of the valley, as “Grazing Lands” over the plateau area, and “Other” over the remainder of the property. “Farmlands of local importance” are considered to be good for oat and hay farming or vineyards. “Other” refers to brush lands and areas that fit no other agricultural category.

2.b. Potentially Significant. The property is not covered by a Williamson Act contract. County zoning on the property includes Diverse Agriculture, whose purpose is “to enhance and protect those land areas where soil, climate and water conditions support farming but where small acreage intensive farming and part-time farming activities are predominant, ... and to implement the provisions of the diverse agriculture land use category of the general plan and the policies of the agricultural resource element.”

Relevant General Plan policies include the following:

Objective AR-3.2: Maintain, in those agricultural land use categories where small parcels may be permitted, the largest land area for agricultural use. Limit the number of clustered lots in any one area to avoid the potential conflicts associated with residential intrusion.

Policy AR-3e: Where clustered subdivision is permitted, to the extent allowed by law, place an agricultural easement in perpetuity on the residual farming parcel(s) at the time that the subdivision occurs. The easement shall be conveyed to the County or other appropriate non-profit organizations.

Policy AR-4c: Protect agricultural operations by establishing a buffer between the agricultural land use and the residential use at the urban fringe adjacent to an agricultural land use category. Buffers shall generally be defined as a physical separation of 100 to 200' and/or may be a topographic feature, a substantial tree stand, watercourse or similar feature. In some circumstances a landscaped berm may

provide the buffer. The buffer shall occur on the parcel for which a permit is sought and shall favor protection of the maximum amount of farmable land.

Policy AR-5e: Local concentrations of any commercial or industrial uses, even if related to surrounding agricultural activities, are detrimental to the primary use of the land for the production of food, fiber and plant materials and shall be avoided.

Goal AR-6: Allow new visitor serving uses and facilities in some agricultural areas but limit them in scale and location. These uses must be beneficial to the agricultural industry and farm operators and compatible with long-term agricultural use of the land.

Objective AR-6.1 Give the highest priority in all agricultural land use categories to agricultural production activities. Any visitor serving facilities shall promote agriculture and be secondary and incidental to the area's agricultural production.

Objective AR-6.2 Permit tasting rooms and stands for the sale and promotion of products grown or processed in the County in all agricultural land use categories if they support and do not adversely affect the agricultural production activities of the area. Bed and breakfast inns of five or fewer rooms and campgrounds of up to 30 sites are permissible only in the "Land Extensive Agriculture" and "Diverse Agriculture" categories if they do not adversely affect the agricultural production activities of the area.

Policy AR-6b: Notwithstanding policy AR-6a, recognize existing restaurants or lodging facilities and those which were approved during adoption of this plan, but limit their expansion or intensification.

Policy AR-6d: Follow these guidelines for approval of visitor serving uses in agricultural areas, such as wine or cheese tasting:

- 1) the use promotes and markets only agricultural products grown or processed in Sonoma County.
- 2) the use is compatible with existing agricultural production activities in the area.
- 3) the use will not require the extension of sewer and water.

GOAL LU-8: Protect lands currently in agricultural production and lands with soils and other characteristics which make them potentially suitable for agricultural use. Retain large parcel sizes and avoid incompatible non-agricultural uses.

Policy LU-8d: Deny general plan amendments which convert lands outside of designated urban service areas with Class I, II, or III soils (USDA) to an urban or rural residential, commercial, industrial, or public/quasi public category unless all of the following criteria are met:

- 1) The use is not in an agricultural production area and will not adversely affect agricultural operations.
- 2) The supply of vacant potential land for the requested use is insufficient to meet projected demand.
- 3) No areas with other soil classes are available for non-resource uses in the planning area.
- 4) An overriding public benefit will result from the proposed use.

Policy LU-14r: The "Diverse Agriculture" and "Recreation and Visitor Serving Commercial" designations applied to Graywood Ranch (APNs 51-020-06, 10, 19, 32 and 33 and 51-010-13 and 17) are intended to accommodate an approved development consisting of 18 residential parcels, a [36] room hotel and a winery, each on separate parcels, an agricultural parcel and a residual parcel. It is the intent of the general plan to:

- (1) exempt these parcels from the 10 acre minimum lot size requirement of the "Diverse Agriculture" land use category; and
- (2) allow modification of the size and location of these parcels without further amendment of the land use map.

Any proposal to increase the total number of lots or the size of the hotel shall require a general plan map and/or text amendment.

In addition, the North Sonoma Valley Specific Plan, under Local Goals and Policies, p. 5-3, states in Goal B, Policy 4: "In processing subdivisions on parcels of sufficient size and/or with soils suitable for agricultural production, the County will encourage clustering of the parcel's overall density to minimize potential adverse impacts on agriculture. Where development densities from agriculturally productive soil areas are transferred to clusters on non-productive areas, conservation easements on the productive soil areas will be a condition of subdivision approval. This approach will be applied, but not limited to...Graywood Ranch."

Discussion: The County General Plan contains many policies regarding the protection and preservation of agriculture. The plan also contains Policy LU-14r, which accommodates a development proposal approved (but never recorded) in 1984 for the larger Graywood Ranch property. Aside from Policy LU-14r, when reviewing this project against the policies listed above, it is generally consistent with many of them. For example, on this portion of the Graywood Ranch, the largest land area has been preserved for agricultural use, consistent with Objective AR-3.2 and Goal LU-8. The valley floor is proposed for some form of agriculture for 1200 feet from the Sonoma Highway, back towards the hills to the north/northeast. This is the area most suitable for agriculture on the site, containing Class II and III soils and flat lands. The remainder of the land within the project site (except where the winery and Lot 1 are proposed) contains steep slopes with shallow soils not as suitable for agriculture. The residences and inn/spa/restaurant have been located in areas within the Diverse Agriculture designation least suitable for current or future agricultural production. The winery is located behind the flatter lands, at the toe of the plateau slopes and within slowly rising lands at the forest/grassland interface.

In the original application, all of the residences except one were well buffered from existing agricultural use and/or adjacent properties that are zoned for agriculture. A referral response from the Sonoma County Agricultural Commissioner dated July 6, 2001 indicated that a 100 foot agricultural setback should be established on the east side of the property at Lot 8 and Parcel B (the inn parcel). The lot 8 building envelope was shown closer than 100 feet from the property to the south, which is zoned Land-Intensive Agriculture. Addendum 2 to the application changed the building envelope, and it now meets the required setback.

The winery would be agricultural processing, and therefore consistent with the General Plan and zoning. The applicant proposes to use existing groundwater and septic systems to service the development. There is no agricultural production currently on any portion of the project site, though some agriculture use may be proposed for the flatlands forward of the grassland interface with the oak woodlands/forest. The winery will complement vineyard production, if vineyards are developed, and will be placed on lands that are not likely to conflict with current or probable future agricultural production. Wineries exist up and down the Sonoma Valley, and have up to the present generally not been considered to be "concentrations" of commercial uses in agricultural areas. Furthermore, the wine tasting/retail sales is consistent with Policy AR-6d regarding visitor serving uses in agricultural areas, as it is compatible with existing agricultural production activities in the area, and would promote and market agricultural products grown or processed in Sonoma County.

With regard to Goal AR-6 and Objectives AR-6.1 and AR-6.2, the proposed commercial uses (the retail shops and the inn/spa/restaurant) would be located in areas least suitable to agricultural use, and least likely to be farmed now or in the future. The winery is intended to be a smaller "specialty house" limited to 40,000 cases annual production capacity, and its associated retail store is intended to highlight local production and produce. Due to its size and location in proximity to vineyard production, the winery does not appear to conflict with agricultural land use and could be considered compatible with long-term agricultural use of the land.

The number of proposed events at the winery would be 30 per year, with maximum attendance of 200 persons. Other wineries in the local area are permitted (or are proposing) 6 larger events of more than

250 people (500-1000) per year, and 10, 18, or 24 events of about 200-250 people per year. The maximum number of events any single local winery currently holds per year is 24, with an application pending by Chateau St. Jean for additional events (a total of 30/year). The County has approved up to 62 events per year in other areas of the county including southern Sonoma Valley. The County currently has no policy regarding the number of winery events, but the issue is being carefully evaluated with each request, especially in Sonoma Valley where traffic on Highway 12 is a concern.

The inn, restaurant and spa could also be considered to be intense commercial uses within the agricultural and rural area, given their combined size, number of separate buildings, and being open to the public. Their location on the plateau away from agricultural producing locations, combined with the assumption that they will be well screened from the valley floor, helps to contribute to their relatively less obtrusive nature in terms of a commercial use in an agricultural area. Nevertheless, combined with the winery, events center, and retail store on the winery parcel, the inn/spa/restaurant could be considered to cause a concentration of commercial use in the area, which would not be consistent with General Plan Policy AR-5e.

Policy AR-6b recognizes restaurants and lodging facilities such as this project that was approved during adoption of the 1989 General Plan, but calls for limiting their expansion or intensification. The current proposal is an expansion and intensification of the original proposal, with the addition of a spa and restaurant open to the public by reservation, the addition of 14 hotel rooms, and the proposed events and retail stores. When looked at in conjunction with the proposed subdivision of the remainder of the plateau area for residential development, and the subdivision of the western portion of the Graywood Ranch, the property would be more intensely developed than originally approved.

The flatlands up to the toe of the plateau slopes contain Class 2 and 3 soils, suitable for agriculture. Within this area, only the winery/events/store area and half of one residential lot are proposed. Given that the winery is considered a compatible use as discussed above, and lies in the upper portion of the area at the forest/grassland interface, the conversion of agricultural lands appears to be compatible. Half of a residential lot (Lot 1) contains Class 3 soils, however the building envelope is shown just outside that area. The leach field for the residence is proposed within the agriculturally suitable area, and a large leach field for the inn/spa/restaurant development is located within Class 3 soils south of the winery/events area. Alternatives to the size and location of the structures and leach fields should be considered if that would reduce the loss of agricultural land.

2.c. Potentially Significant Impact. The development of this property could encourage further development of lands for non-agricultural uses in this important agricultural corridor. Cumulatively, this project, when combined with the Paradise resort (which proposes a 98-room resort on a plateau area above the valley floor) project in the Chateau St. Jean area could encourage additional high-end commercial resort uses in the hillside areas of the Sonoma Valley.

3. AIR QUALITY

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
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Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

_____	_____	_____ X _____	_____
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- | | | | | |
|--|-----|--------------|--------------|-----|
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | ___ | ___ | <u> X </u> | ___ |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for the project region, leading to non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | ___ | ___ | <u> X </u> | ___ |
| d) Expose sensitive receptors to substantial pollutant concentrations? | ___ | <u> X </u> | ___ | ___ |
| e) Create objectionable odors affecting a substantial number of people? | ___ | ___ | <u> X </u> | ___ |

Comment:

3.a. Less than Significant. The proposed project site is located within the Bay Area Air Quality Management District (BAAQMD) jurisdiction, which is a regional agency responsible for the overseeing of compliance with State and Federal laws, regulations, and programs within the San Francisco Bay Area Air Basin. The project does not include any stationary sources (i.e. smoke stacks) and would not generate any mobile source emissions beyond that generated by vehicles. The project will not generate enough traffic to cause significant air emissions per the BAAQMD CEQA guidelines. A referral describing the project was sent to the BAAQMD, who did not respond.

3.b. Less than Significant. The Bay Area Air Quality Management District (BAAQMD) is considered a non-attainment area for ozone under both the Federal Clean Air Act and the California Clean Air Act. The Bay Area is also considered non-attainment for PM10 under the California Clean Air Act but not the Federal Act. The Bay Area was previously a non-attainment area for carbon monoxide maintenance under the Federal Clean Air Act. Attainment means the region normally does not violate air standards. Projects with substantial carbon monoxide emissions or which generate substantial traffic affecting congested intersections must undergo detailed carbon monoxide analysis to predict local concentrations of that air pollutant. The project will not generate enough traffic to cause significant air emissions per the BAAQMD CEQA guidelines.

3.c. Less than Significant. See response to 3.a. and 3.b above. In addition, this project, combined with other existing and proposed development in the area, would not cause a cumulative effect related to carbon monoxide or other mobile emissions.

3.d. Less than Significant with Mitigation Incorporated. The BAAQMD CEQA guidelines define sensitive receptors as facilities where sensitive receptor groups (i.e. children, the elderly, the acutely ill, and the chronically ill) are likely to be located. Such uses typically include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. The project is not located near any sensitive receptors aside from residences located to the east, nor will the project produce air pollutant concentrations other than those produced by normal vineyard practices. Air pollution caused by standard vineyard practices in a vineyard of this size (approximately 13 acres) is not considered substantial or significant. Dust from construction of the development may be considered significant due to the extent of development on this site, and requires the following mitigation measure.

3.d. Mitigation Measure:

The following dust control measures will be included in the project:

1. Water or dust palliative shall be sprayed on unpaved construction and staging areas during construction twice daily or as required by PRMD and construction inspectors.
2. Trucks hauling soil, sand and other loose materials over public roads will cover the loads, or will keep the loads at least two feet below the level of the sides of the container, or will wet the load sufficiently to prevent dust emissions.
3. Paved roads will be swept as needed to remove soil that has been carried onto them from the project site.
4. Water or other dust palliative will be applied to stockpiles of soil as needed to control dust.
5. Avoid and/or halt grading in exposed areas during periods of heavy wind.

3.e. Less than Significant. Sewage onsite would be handled by underground septic systems, which are not expected to cause odors. Winery operations could cause some odors that some people may find objectionable, however the winery is located more than 250 feet away from the closest property line, with no residences in the immediate vicinity. Impacts are expected to be less than significant.

4. BIOLOGICAL RESOURCES. *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<u>X</u>	—	—	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<u>X</u>	—	—	
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetland, etc.) through direct removal, filling, hydrological interruption, or other means?	<u>X</u>	—	—	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<u>X</u>	—	—	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	—	<u>X</u>	—	

- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? _____ _____ _____ X

Comment:

4.a. Potentially Significant Impact. A rare plant survey was prepared for the project site by Wetland Research Associates, Inc. of San Rafael, California. Two rare plant species have been identified onsite: Sonoma Ceanothus (*Ceanothus sonomensis*), a federal species of concern and CNPS List 1B plant, and Narrow-anthered California brodiaea (*Brodiaea californica* var. *leptandra*), a CNPS List 1B plant. The California Native Plant Society (CNPS) maintains several lists of plants that are rare, threatened, endangered, of limited distribution, or about which more information is needed, and for which concern has been raised over losing the species in the wild. CNPS List 1B is a list of plants which are rare, threatened or endangered in California and elsewhere.

Sonoma Ceanothus has been found on the project site, primarily on the steep slopes above the plateau area, in the northern portion of the property. Approximately 5,000 to 10,000 individuals were observed within the chaparral community, in association with chamise, manzanita, other ceanothus species, and knobcone pine. A single individual was found on the plateau area in April 2001, but it had been brushed (along with the majority of the plateau area) by June. The project proposes one to two residential lots within the upper sloping area. Lots 10 and 11 are located above the northeastern edge of the plateau area, on the sloping lands at the edge of the forest. Lot 11 is currently proposed to be approximately 72 acres in size, encompassing the upper slopes north of the Rancho Los Guillicos grant line as well as approximately 5-6 acres below the grant line. Two alternative building envelopes are proposed for Lot 11—one on the slopes where Ceanothus is present, and another lower, in the forest. The California Department of Fish and Game (DFG) recommended that the ceanothus colony be protected in a conservation easement, and that the location of the future hiking trail be done in consultation with DFG to ensure maximum avoidance (letter from Robert Floerke dated January 31, 2002). Addendum #2 to the project application (March, 2002) has proposed an easement for the area containing Sonoma Ceanothus.

Several hundred individuals of narrow-anthered California brodiaea were found growing in a rocky seep and channel in the western portion of the plateau area as it begins to drop toward the west. In addition, approximately 30 plants were found scattered along the channel flowing across the middle of the plateau. According to the Tentative Map, the project proposes no development in the area where the largest number of plants is located. However, it appears that a driveway leading to two residential lots proposed for the southwestern edge of the plateau may potentially cross the eastern edge of the brodiaea colony. DFG recommended that the brodiaea colony be protected with a conservation easement, and that the proposed driveway avoid the colony (letter from Robert Floerke dated January 31, 2002). Addendum #2 to the project application (March, 2002) has proposed an easement for the area containing the brodiaea.

A secondary impact to the colony could result from the residential development, driveways, roads, spa, and parking lots, as they have the potential to significantly increase the velocity and amount of water draining through the brodiaea colony area. This impact has not been analyzed.

No faunal studies of mammals, reptiles, amphibians, and invertebrates were prepared for the project site. Since there are no vernal pools onsite, presence of associated species, including sensitive plants as well as the tiger salamander, are doubtful. The wetland study submitted by the applicant indicates that ponding in the stream was present during August and September, the driest time of the year. California Department of Fish & Game (DFG) biologists have been to the site (memo from Bill Cox dated October 3, 2001), and noted that the stream was unlikely to harbor threatened or endangered fish or shrimp due to the lack of pools or water at the time of the visit, and the lack of configuration for a

stream typically supporting fish. It was noted that it appeared unlikely that the endangered red-legged frog would be found on the site, due to the lack of water and pooling observed at the time of the visit. However, given the observation of ponding in the stream by the wetland consultant, it has not been clearly established whether there is habitat suitable for red-legged frogs. Habitat assessment for the red-legged frog should be done using appropriate US Fish and Wildlife protocols.

DFG (letter from Robert Floerke dated March 21, 2002) noted that the proposed home sites with wooded lots do not appear to have appropriate structure for northern spotted owls, but that field surveys may demonstrate that northern spotted owls are found in the proximity of the project. The US Fish and Wildlife Service should be contacted regarding surveys for the owl.

- 4.b. Potentially Significant Impact.** One USGS blue line ephemeral stream exists on the property, with a branch coming down into the center of the plateau, then moving west through where the brodiaea exist as described above, turning southward as it joins the more significant riparian drainage following the project's proposed western property line (the "adjusted" Lot Line between the two portions of the larger Graywood Ranch) until the slope flattens out. The stream and riparian area then moves in a southeastwardly direction, diagonally across the valley flat lands, exiting in the southeastern portion of the flatlands area. The riparian vegetation along the stream course is well developed and healthy, with few invasive exotic species present. Oak, bay, madrone, big leaf maple, willow and alder are present, as well as some large Douglas fir, and numerous ferns. An oak woodland also exists along the western side of the property in the flatlands area next to the proposed winery/events area. The woodland is well developed and relatively healthy, with regenerating oaks of several species, and some understory (where it has not been brushed by the on-site forest management program). Riparian habitats and oak woodlands are considered to be sensitive habitats by DFG.

The General Plan Resource Conservation Element requires developments to minimize damage to the stream environment (Policy RC-8c) The Open Space element does not specifically designate any riparian areas on the property, however Policy OS-5d calls for designating additional riparian corridors in specific plans, area plans, or local area development guidelines that would be subject to the policies, and refers discretionary permits to the Sonoma County Water Agency (SCWA) and the DFG as part of the environmental review process. Open space policies define stream types and establish streamside conservation areas, measured from the top of the higher bank as determined by the SCWA. Two types of riparian areas as defined appear onsite: "Flatland Riparian Corridors" include the corridors adjacent to any streams which flow through predominantly flat or very gently sloping land, generally with alluvial soil; and "Upland Riparian Corridors" include corridors not included in other categories. The streamcourse that runs through the site would be defined as an upland corridor through the upper property, until it reaches the winery/events area, where it crosses very gently sloping land with alluvial soil. Required setbacks for designated streams that establish streamside conservation areas are 50-foot setbacks for upland riparian corridors, and 100 feet for flatland corridors. The stream through the site is not a general plan designated stream, although it is a USGS blue line stream. It flows intermittently. The California Department of Fish & Game (DFG) would be the most appropriate agency to establish setbacks for the stream. DFG has been to the site and established that a 50-foot setback would be appropriate throughout the site. The Open Space element (Policy 5f) also prohibits structures, roads, parking lots, and utility lines within any streamside conservation area, unless no significant disturbance of riparian habitat would occur. Development is also subject to setbacks of 30-50' from the County's Drainage Review criteria.

Information gathered through the Sonoma County Agricultural Preservation and Open Space District (SCAPOS) files and maps shows Priority Oak Woodlands over the eastern side of the property at the level of the plateau and below, as well as showing the entire property as being within a California Natural Diversity Data Base (NDDDB) Natural Area. The project site contains four plant communities: annual grassland/valley oak woodland, mixed evergreen forest, riparian forest, and chaparral. The majority of the valley floor contains annual grassland with a scattering of valley oaks. These large oaks

are considered to be a sensitive natural community by DFG and Sonoma County. The forest that occurs on and below the slopes surrounding the plateau area and above the plateau until the steeper slopes turn to chaparral, is described as a mixed evergreen-hardwood forest, and contains primarily a mix of several kinds of oak, madrone, and bay, with some areas dominated by Douglas fir. This closed canopy oak forest is considered an important and sensitive natural plant community by the County and DFG that supports diverse wildlife species, and is cumulatively diminishing over time. The Resource Conservation Element of the General Plan calls for promoting and maintaining the County's diverse plant and animal communities and protecting biotic resources from development activities. It also calls for identifying and encouraging the protection of areas with important wildlife habitats and woodland resources, and encourage the use of native plants in landscaping to reduce the risk of introducing exotic plant species into wildlife areas. Policy RC-5c states: Make the preservation of significant native oaks and other native trees a primary consideration in the review of development projects, and calls for protecting and enhancing valley oak trees and stands.

The project applicant has expressed an intent to develop all facilities and roads in a sensitive manner to retain the property's sense of place and integrity. The large valley oaks, which are considered sensitive, are proposed for preservation in open space easements. In addition, the applicant has proposed conservation easements to protect the ceanothus colony, the brodiaea colony, and an area with perennial native grasses to the east of the winery.

Improvements to the main access road to the plateau area will impact the riparian community in several locations, as the existing road that follows the stream needs to be widened to accommodate fire trucks, delivery trucks, as well as visitor traffic in both directions. In some areas, the current road, at approximately 10 feet in width, is squeezed between the edge of the stream and steep slopes. The road's stream crossing is planned in a different location than the current crossing location, which will necessitate a culvert or bridge with permitting from California Fish & Game and the Army Corps of Engineers. At the top of the property, the access road will turn into the property in a minor drainage, requiring removal of several trees and causing impacts to the small drainage. The plans for the road do not currently show the streamcourse, top of bank, riparian vegetation, or riparian setback in relation to the road. The DFG has commented that construction should occur outside of the 50 foot setback. It does not appear that that will be possible for the whole length of the road, therefore mitigation to reduce this impact may be necessary. Mitigation could include narrowing the road to the minimum width allowable by the County in sensitive areas. Addendum #2 to the project application (February, 2002) presents alternative road widths, with a proposed road cross section of approximately 18 feet in the most sensitive area near the creek.

Fire management for the project may impact the evergreen forest significantly. Because the forest type is considered a high fire danger, and the fact that many structures are located adjacent to steep slopes, vegetation management for fire prevention will be required. Vegetation management would occur within 150 feet from structures and building envelopes sited adjacent to the steep west and south facing slopes, and would require the removal of many conifers such as Douglas fir. Larger fir trees could remain if the canopy is cleared to 15 feet from the ground, and canopy separation between conifers is ensured (30 feet of separation on 30% slopes; 40 feet on 40% slopes). In addition, canopy separation between remaining oak and madrone trees of a minimum of 10 feet would be required, as would 15-25% thinning of the remaining forest canopy, and removal of all dead wood, brush and understory vegetation considered "ladder fuels." Due to the location of the project on the plateau area, the fuel management area may take up almost half of the area of the slopes forward of the plateau (approximately 17 acres out of about 30-35 acres). This may result in a continuously connected swath of forest thinning from the west side of the project to the east. The closed canopy forest in this area would essentially become an open-canopy woodland, with no intermediate layers and reduced understory. The thinning will affect the ecological structure of the forest, changing the food and cover available to wildlife. Removal of dead and decaying trees could also remove significant wildlife value as well as ecological components important to forest regeneration. Some effects of the thinning would be

beneficial (such as reduction of fire hazard; others could be adverse (such as reduction of cover). Further analysis is needed to determine the significance of this thinning.

The presence of residences and a resort will also change the dynamics of the forest, its usefulness to wildlife, and its ability to withstand disease and other threats to its health. The resort, with 50 rooms, main lodge, spa, and parking lots will use the majority of the plateau area for its development. Most people who use the resort are likely to stay within the resort and on its paths, and will in some respects be fairly well contained to the plateau area and trails. The residences, spread as they are around the resort, will reduce the forest and cause permanent changes due to permanent residents, the introduction of lighting, as well as cars, pets, noise, garbage, and other forms of intrusion and pollution that are difficult to control. Although the building envelopes attempt to contain the residential development, the residential lots cover a large portion of the project site, with the majority of the forest occurring on these properties. Residents typically tend to want to explore, control, use and plant the majority of lands that they own, converting them over time to a mixture of natural and urban/rural use. These impacts, combined with similar impacts caused by the resort, may cause significant impacts over time due to the effects of reduced forest cover and residential intrusion.

Addendum #2 contains a landscaping section with plant lists included for oak woodlands and riparian areas and drainageways. The plant lists include hybrid plants and non-locally native species that could potentially impact the native environment in a detrimental fashion.

This project, combined with the potential impacts due to the proposed development of the western portion of the Graywood Ranch, as well as the Paradise Resort which is planned in similar hillside forest habitat, may result in cumulatively significant impacts to mixed evergreen hardwood forest. Additional analysis assessing the significance of this impact is needed.

The streamcourse and riparian area should be accurately mapped and its relationship to the existing and proposed entry/access road must be shown. The streambanks, wetlands, and setback line should be delineated on the Tentative Map, construction plans and the Final Map. In addition, more information on and an assessment of drainage improvements for the road, the impacts of parking lots and other development onsite to oak woodlands and riparian areas, and the potential impacts of the pipeline carrying wastewater from the inn/resort area to the leach fields on the flatlands, are needed to fully understand impacts potentially caused by this project.

- 4.c. Potentially Significant.** A preliminary wetland study was performed by Wetland Research Associates of San Rafael, California. The study found no potential jurisdictional wetlands on the site, however it did find potential jurisdictional waters (the stream), including some disjunct pools with standing water during the driest time of the year (August and September). The study estimated the total area of jurisdictional waters at approximately 3 acres. Impacts to the stream are described in item 4.b above.

Additional field work is needed to determine whether two seasonally wet areas meet the Army Corps criteria for jurisdictional wetlands. The first is the location of the brodiaea colony, and the second is along the southern edge of the site.

- 4.d. Potentially Significant Impact.** The project would reduce the forest area, which could significantly diminish its value for wildlife movement and proliferation. Two potential wildlife corridors appear to exist on the site, crossing the plateau area from north to southwest in connection with the existing drainage, and another passing to the east and southeast along the drainageways on the east side of the property. Many wildlife species will follow easier pathways wherever possible, seeking cover in underbrush wherever it is available, while others prefer the cover of forest and areas where they can hide. They are likely to use the existing dirt paths and roads for portions of their passage, and flatter open areas like the plateau area for ease of movement, as well as crossing the heavily forested areas in their movement from one area to another in search of food, resting areas, or nesting/reproduction areas. In

addition, ecotones, or changes in ecological structure from one area to another are known to attract higher concentrations of wildlife interaction. On the project site, this would occur between the chaparral covered slopes and forest, between the forest and openness of the plateau area, and the interface between forest or riparian areas and the grassland on the flat lands. The development may have the potential to cause significant impacts to wildlife movement, as described under Item 4.b above. The forest may provide nesting areas for raptors. Additional analysis is needed to determine whether a significant impact would result.

4.e. Less than Significant with Mitigation Incorporation. The majority of local policies protecting biological resources have been described in the items above, especially item 4.b. Other specific policies and regulations relating to trees include the Valley Oak ordinance, and the Tree Protection Ordinance. An arboricultural evaluation was prepared for this project (Sonoma County Inn Arboricultural Evaluation Preliminary Recommendations; McNair & Associates; 12/13/00), along with a supplemental memo dated 2/22/02. The report indicates that about 15% of the trees will be removed, which would be below the 50% removal threshold requiring tree replacements under Ordinance 4014. In addition, the project proposes to protect mature valley oaks in the western portion with an easement, and proposes to mitigate any removal of valley oaks within the valley oak savannah zones by planting new trees in accordance with the mitigation guidelines shown in Table 26-67-030 of the valley oak protection ordinance. The report further identifies measures to protect trees during construction. The following measures would reduce the impacts to less than significant:

4.e. Mitigation Measures:

- 1) Implement all of the arborist's measures listed in the Arborist Report under "Tree Removal Mitigation", and "Tree Protection Procedures" to protect trees during construction. All such measures shall be clearly stated on all grading and construction plans. An arborist shall inspect the site prior to start of construction and periodically during construction to ensure that the tree protection mechanisms are put in place and remain in place during the entire construction period. No equipment, vehicles, or debris of any kind shall be stored or placed under protected trees.
- 2) Plant new trees to replace valley oaks removed from the valley oak savannah zones according to the mitigation guidelines in Table 26-67-030 of the valley oak protection ordinance (Ordinance 4991). Only native trees shall be used in mitigation planting.

4.f. No Impact. No habitat conservation plans or NCCPs exist for the area.

5. CULTURAL RESOURCES. *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historic resource as defined in §15064.5?	___	___	<u>X</u>	___
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<u>X</u>	___	___	___
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	___	___	___	<u>X</u>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<u>X</u>	___	___	___

Comment:

5.a. Less than Significant. A Cultural Resources report was prepared for the project by Archaeological Resource Service of Petaluma, California. Although the Cultural Resources report states in its introduction that historic as well as archaeological references and resources were evaluated for the project, no mention of historic architectural resources occurs within the report. From a cursory field review, it appears that no structures or walls older than 45 years exist on this portion of the Graywood Ranch property. Additionally, in checking previous and other project files for the Graywood Ranch, only one historic resource appears in the references: a stone wall located outside the project area, on the portion of the Graywood Ranch property to the northwest. Therefore, it is unlikely that significant impacts to historic resources would occur due to the proposed project.

5.b. Potentially Significant Impact. A Cultural Resources report was prepared for this project (A Cultural Resources Evaluation of the Auberge Resorts Project within the Graywood Ranch, Kenwood, Sonoma County, California; Archaeological Resource Service; September 5, 2000). The report describes several archaeological resources that could potentially be affected by the proposed project. The report conducted some auger testing for resources on the valley floor, and located previously described sites on the floor and the plateau area, as well as one on the steep upper portion of the property. In all, it appears that several areas of the property contain artifacts and potential prehistoric sites.

Two sites and areas with resources exist on the valley floor (sites CA-Son-36 and CA-Son-1941). Site CA-Son-36 is a very large site, partially on the southwest portion of the project site. This site extends outside the project area onto the adjacent Graywood Ranch, and was also studied for a proposed project on that parcel (A Cultural Resources Evaluation of the Approximate 100 Acre Portion of the Graywood Ranch, Located at 7935 Sonoma Highway, Kenwood, Sonoma County, California; Archaeological Resource Service; March 8, 2001). While most of the site is on the adjacent Graywood Ranch, a significant portion appears to lie on the project site, in the area where the entry road would be located. It appears that up to the first 1200 feet of the western side of the project site may be affected by Son-36. Impacts to the site may result from improvements to the access road.

CA-Son-1941 is located at the southeastern corner of the site, opposite Lawndale Road. None of the development proposed by the applicant would affect this site, however, it could be affected by road improvements on Highway 12.

Scattered flakes and fragments were located in the winery/events area, though the report states that "artifacts were not found in concentration and do not constitute a recordable site. However the general vicinity of this proposed location is considered sensitive..."

On the plateau area, two sites were found. One site (CA-Son-871) is outside the project site, across the stream on the adjacent Graywood Ranch. Although site CA-Son-871 is not on the project site, and would not be affected by project impacts, artifacts thought to be associated with that site were found on the existing access road on the project site. The other archaeological site (CA-Son-872) is on the project site, on the plateau area where proposed cottages would be located just east of the main lodge.

The far northeast corner of the project property was also examined because the project proponents had originally proposed a potential homesite and vineyard in that location. No artifacts were found on the few exposed soils of the area, however pebble and cobble obsidian were found, indicating it may have been a source of obsidian for aboriginal populations.

Given that site CA-Son-36 is a large and possibly significant site, and that the archaeological report did not establish the boundary of the site on the project parcel or describe the impact that would result from the project, further study should be done to determine the significance of the impacts.

The archaeological report suggests several measures to reduce effects of the project on archaeological resources. These measures should be considered, and supplemented as needed when further information has been obtained regarding site CA-SON-36.

5.c. No Impact. No paleontological resources are expected in this area. No impacts are anticipated.

5.d. Potentially Significant Impact. Given the extent of archaeological resources present on site, there is a potential for human remains to be encountered. See discussion in 5.b above.

6. GEOLOGY AND SOILS. *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	—	—	<u>X</u>	—
ii) Strong seismic ground shaking?	—	<u>X</u>	—	—
iii) Seismic-related ground failure, including liquefaction?	—	—	<u>X</u>	—
iv) Landslides?	<u>X</u>	—	—	—
b) Result in substantial soil erosion or the loss of topsoil?	<u>X</u>	—	—	—
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<u>X</u>	—	—	—
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	—	—	<u>X</u>	—
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal or wastewater?	<u>X</u>	—	—	—

Comment:

6.a.(i) Less than Significant. A preliminary geologic evaluation was prepared for the project by The Geoservices Group of Sebastopol, California (September 17, 2000). The report states that the consultants performed a search of faults and found 23 faults within 100 kilometers (60 miles) of the site. The active faults lying nearest the property include the Rodgers Creek fault, located 10 kilometers west of the site, the West Napa fault, 17 km. southeast of the site, and the Maacama fault located 19 km. north of the site. No active faults traverse the site, and the property is not within an Earthquake Fault Zone (also known as Alquist-Priolo "Special Studies" zone) as defined by the California Division of Mines and Geology. Surface fault rupture is not considered a risk on this property according to the geologic report.

6.a.(ii) Less than Significant with Mitigation Incorporated. The report estimates maximum ground acceleration at the site (.15g) and peak horizontal ground acceleration (.52g) from previous earthquake records up to 1993. The report states that very strong seismic ground shaking can be expected at the site from future earthquakes. The report also states that it anticipates that buildings can be supported on conventional foundation types, but that specific recommendations should be based on a soil investigation. Such studies are typically done during the project design stage, and are submitted for County review along with the building permit applications. The following mitigation measures would reduce impacts to less than significant:

6.a.(ii) Mitigation Measures:

- 1) Additional soil investigations shall be done during the project design. Recommendations of the geologist shall be incorporated into the project design and reflected in the construction documents and implemented as required by the County. All building sites and envelopes, roads, leach fields, and development areas shall be investigated.
- 2) All necessary Uniform Building Code (UBC) requirements regarding seismic shaking shall be implemented, per Sonoma County Building Division and geologists recommendations.

6.a.(iii) Less than Significant. Seismic-related ground failure due to liquefaction is not expected on the plateau area, however the winery/events area may be subject to liquefaction, as it is located on alluvial soils. The Sonoma County General Plan Public Safety Element Figure PS-1e designates the valley floor area of the project site as having high or moderate potential for liquefaction. General Plan **Policy PS-1f** states: "Require review of geologic reports prior to decisions on any project which would subject property or persons to significant risks from the geologic hazards shown on Figures PS-1a through PS-1i and related file maps and source documents. Geologic reports shall describe the hazards and include mitigation measures to reduce risks to acceptable levels. Where appropriate, require an engineer's or geologist's certification that risks have been mitigated to an acceptable level and, if indicated, obtain indemnification or insurance from the engineer, geologist, or developer to minimize County exposure to liability."

Liquefaction results in a loss of shear strength and potential volume reduction in saturated granular soils below the groundwater level from earthquake shaking. The geologic report for the site states that the winery area is underlain by gravelly soils typical of the headward end of an alluvial fan, and the soils are poorly sorted, containing a broad range of grain sizes, including silt and clay fines. The report evaluates settlements or fissuring from liquefaction to be unlikely, however it also states that further analysis is beyond the scope of the study. Further soil investigations, including subsurface investigation and engineering analysis in the location of all structures in the winery/events area and Lot #1 will be required during the design process, and all measures determined necessary by the analysis will be required to be incorporated into the development plans by PRMD or other relevant departments during review of the building permit applications.

6.a.(iv) Potentially Significant Impact. The General Plan Public Safety Element Figure PS-1e designates the area above the valley flatlands as having high or moderate potential for landslides. In addition, maps

from California Department of Mines & Geology Special Report 120 show three landslides on or adjacent to the project site, and shows the majority of the plateau area as being "locally level areas within hilly terrain that may be underlain or bounded by unstable or potentially unstable rock materials". General Plan **Goal PS-1** states: "Prevent unnecessary exposure of people and property to risks of damage or injury from earthquakes, landslides and other geologic hazards. **Objective PS-1.2** says: "Regulate new development to reduce the risks of damage and injury from known geologic hazards to acceptable levels." In addition, the general plan advises that "structures should not be placed on known landslides or faults and, when located close to these features, may need special design to withstand damage."

The three mapped landslide areas lie on the slopes under and generally south of the plateau. The first is along the western side of the plateau slopes, the second at the corner of the property nearest the proposed cottages east of the main lodge, and the third along the eastern property line south of the Rancho Los Guilicos grant line.

The geologic report (Preliminary Geologic Evaluation, Graywood Ranch Project, Kenwood, California; The Geoservices Group, September 17, 2000) suggests that the western landslide may actually be volcanic bedrock strata flowing in a northwest direction, being exposed by erosion in a series of benches. The report stated that this hypothesis should be verified by subsurface data if any project plans call for structures, roads, or other improvements in these areas. Three of the residential lots (Lots #2, 3, 4) are located within the area of the mapped western potential landslide. Lot #2 at midslope is fully within the area of the designated potential landslide, and Lots 3 and 4 incorporate much of the same slope within the area, with their building envelopes at the edge of the plateau. In addition, septic systems and diversions of runoff on these sloping areas could lead to instability, causing slides as soils become concentrated with moisture. The road at the bottom of the slope will require cutting into the slope in order to widen the road, causing additional concerns for instability in the area.

The central landslide was not indicated at all on aerial photos of the site. During reconnaissance surveys the geologist found the central mapped landslide area to be underlain by bedrock, and not to be a landslide.

The eastern landslide lies on property to the east, and was found by the geologist not to extend onto the project site, as bedrock lay on and directly adjacent to the project site.

A supplemental letter report from the geologist (The Geoservices Group letter to Auberge Resorts, dated January 24, 2002, and included in Addendum #2 to the project application) concluded that building lots 2, 3, 4, 8, and 9 lie within areas underlain at the surface or at shallow depth by volcanic bedrock. Further, that if the mapped landslide areas are confirmed by subsequent investigations to be landslides, they would not pose an impact to the planned building envelopes.

The report did not address the potential for impact from the construction of the septic systems and access roads in and near the western mapped landslide area. Supplemental investigations should be made to determine these impacts.

- 6.b. Potentially Significant Impact.** Soils on the site vary from moderately drained clay loams on the valley floor to excessively drained gravelly loams on the steep northern hillside, with the plateau area covered by well drained loams, and the steep slopes south of the plateau area containing shallow soils and shattered rock subject to rapid runoff. Two residential lots (Lots #10 & 11) are planned for the erodible northern steep hillside slopes. Slopes within the area with moderate runoff include the slopes above the plateau where residential lots are planned. Slopes beneath the plateau contain soils where runoff is expected to be rapid. These soils are currently covered with forest, forest duff, and groundcover plants that protect them from erosion. Development on the steep sloping areas below the plateau, including

roads and structures (Lot #2), may cause significant erosion because of the steep slopes and shallow soils. In addition, runoff from Lots #3 and 4, along with impacts related to fire management exposing slopes to rain and erosive forces, and leach fields within the sloping area, have the potential to cause severe erosion in the area, which could lead to slope instability, sedimentation of the streams, and gullying. Lots # 10 and 11 are located on soils with potential for rapid runoff.

Relevant policies of the Resource Conservation Element of the General Plan include the following:

Policy RC-2b states: "Include erosion control measures for any discretionary project involving construction or grading near waterways or on lands with slopes over 10 percent.

RC-2d: Require a soil conservation program to reduce soil erosion impacts for discretionary projects which could increase waterway or hillside erosion. Design improvements such as roads and driveways to retain natural vegetation and topography to the extent feasible.

RC-2e: Retain natural vegetation and topography to the extent economically feasible for any discretionary project improvements near waterways or in areas with a high risk of erosion as noted in the Sonoma County Soil Survey.

RC-2g: Continue to enforce the Uniform Building Code to reduce erosion and slope instability problems.

Further study of the potential erosion impact should be done, with emphasis on identifying specific areas having high potential for erosion during the construction or operation of the project. Specific mitigation measures should be developed for those areas of the project having the greatest potential for erosion. While these measures should focus primarily on preventing erosion, they should also recognize that some erosion is likely to occur even with good erosion prevention measures, and should include measures to trap eroded soil before it can enter local waterways.

- 6.c. Potentially Significant Impact.** The potential for instability of underlying geology and slopes is discussed under 6.a. above, and for soils, under 6.b. above. The site apparently has the potential for instability both on the plateau area, and on slopes surrounding and below the plateau (especially the slope facing west). Except for during earthquakes, the potential for liquefaction or lateral spreading is considered low by the geological study. Lateral spreading as described by the report appears to potentially affect only Lot #1 and the winery area, as these are on alluvial soils that could be considered marginally stable.
- 6.d. Less than Significant.** Although the soils covering the majority of the site are listed as clay loams, the gravelly alluvial fan soils of the valley flatlands, and the shallow soils over bedrock of the plateau and sloping areas are not considered heavy clays. The geologic report noted that surface shrinkage cracks typical of expansive soils were not observed on the project site. A standard soils investigative report during building design will verify the quality of soils and identify any design features needed to prevent substantial damage from expansive soils. Therefore impacts due to expansive soils are expected to be less than significant.
- 6.e. Potentially Significant Impact.** The project site does not have access to public sewer, so wastewater must be treated on-site. Soils on the majority of the site have been found to be adequate to support septic systems and/or alternative sewage systems by consulting engineers (Wastewater Treatment and Disposal System Feasibility Study for the Sonoma Country Inn, Adobe Associates Engineers, 6/14/01). Additional analysis should be conducted to determine if there is a potential for the proposed septic systems to affect groundwater quality. See item 8.a (Hydrology and Water Quality for further discussion.

7. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

Potentially
Significant
Impact

Less Than
Significant
With

Less than
Significant
Impact

No
Impact

	Mitigation Incorporation			
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	___	<u>X</u>	___	___
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials (including, but not limited to, oil, pesticides, chemicals, or radiation) into the environment?	___	<u>X</u>	___	___
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	___	___	___	<u>X</u>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	___	___	___	<u>X</u>
e) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	___	<u>X</u>	___	___
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	___	___	<u>X</u>	___
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	___	<u>X</u>	___	___

Comment:

7.a. Less than Significant with Mitigation Incorporated. Hazardous materials would not be produced or generated by the project. Nevertheless, the inn, restaurant, spa, winery, and the agricultural use would all occasionally transport and use hazardous materials (i.e. oils, fuels, lubricants, cleaning fluids, etc.) associated with building maintenance, landscape maintenance, winery operations, spa and pool maintenance, and agricultural equipment. **Goal PS-4** of the General Plan Public Safety Element states: "Prevent unnecessary exposure of people and property to risks of damage or injury from hazardous materials, " and Policy **PS-4a** states "While maintaining the autonomy granted to it pursuant to State zoning laws, implement State and County requirements for the storage, transport, disposal and use of hazardous materials, including requirements for management plans, security precautions, and contingency plans." The project will be required to comply with hazardous waste laws and AB2185 if hazardous waste is generated or stored on site, to avoid creating a hazard to the public or the

environment. To ensure that hazardous waste is used and stored properly, the following mitigation measures shall be incorporated into the project to reduce potential impacts:

7.a. Mitigation Measures:

- 1) Prior to issuance of occupancy on any building related permits, the permit holder shall comply with hazardous waste generator laws and AB2185 requirements and obtain a permit or approval from the Certified Unified Program Agency (CUPA) or the participating agency. This requirement applies to compressed gas cylinders, spa and pool chemicals, etc. This condition shall not be signed off until the Project Review Health Specialist receives a copy of a letter of approval or a current permit from the responsible agency.
- 2) The applicant shall obtain an NPDES permit or waiver from the San Francisco Water Quality Control Board for any project involving grading or storm water runoff. A copy of a letter of waived NPDES permits or a NPDES permit shall be submitted to the Project Review Health Specialist to verify compliance.

7.b. Less than Significant with Mitigation Incorporated. The hazardous materials used by the project are unlikely to cause a significant impact to the public or the environment, however combined with the mitigation measure above, the following mitigation measure will help ensure that such materials are stored properly and cause less than significant impacts:

7.b. Mitigation Measures:

- 1) All potentially hazardous materials to the public or the environment shall be located and stored so that in the case of upset, spillage, or accidental release, the location shall be a minimum of 100 feet from any public use area or any riparian and drainage area. In addition, due to alluvial soils and a high groundwater table in the winery area, all such materials shall be stored on a non-porous (eg. concrete) pad with raised sides to contain spillage.

7.c. No Impact. No school lies within one-quarter mile of the project site. The site lies more than one and a quarter miles from the Kenwood School. In addition, there is no indication that the site will emit hazardous emissions or handle hazardous materials other than as described above.

7.d. No Impact. The project site is not on the referenced list of hazardous materials sites.

7.e. Less than Significant with Mitigation Incorporated. A private airstrip lies on the western portion of the Graywood Ranch, adjacent to the entry/access road for both properties. The access road lies on the "adjusted" property line between the two portions of the Graywood Ranch, and the dirt airstrip lies diagonally across the other portion of the Graywood Ranch, beginning at the access road approximately 800 feet north of Sonoma Highway and heading in a northerly direction toward the existing ranch buildings. Although the airstrip is currently used by only one plane and air traffic is very light, the strip could potentially cause a safety hazard to future residents, employees, and guests of this project as the airplane flies low to the ground as it crosses the access road. The airstrip is designated as remaining on a proposed Tentative Subdivision Map for the other portion of the Graywood Ranch. The applicants have stated that they have a written agreement with the neighbor who uses the airstrip that stipulates: (1) no commercial use of the airstrip; (2) use by one person only (Lendal Gray); (3) the use will terminate after either 24 months of non-use or the death of Lendal Gray; and (4) the use shall not interfere with the hotel or winery use. The following mitigation measures would reduce the potential safety impacts to less than significant.

7.e. Mitigation Measures:

- 1) Documentation of the agreement between the airstrip user(s) and the owner of the Sonoma Country Inn project shall be provided to PRMD.
- 2) Signage shall be posted on the access road, in both directions before reaching the airstrip, to warn visitors that a low-flying plane may be taking off or landing from/on the airstrip.

- 7.f. No Impact.** The project would not interfere with an adopted emergency response plan or evacuation plan for the area.
- 7.g. Less than Significant with Mitigation Incorporated.** The project is located in a high wildland fire hazard zone. The project proposes 11 residences, an inn with 24 cottages, a restaurant, and spa within a wildland area. Steep slopes with a southwest facing aspect lie beneath the plateau area where the majority of development is proposed. The slopes contain mixed evergreen forest with a large component of Douglas fir trees, which are considered extremely flammable. The General Plan Public Safety element recognizes that residences have increased the number of fires in hazardous rural areas and states that human activities now account for 9 out of 10 wildland fires. Residences in rural areas cause fire suppression agencies to devote limited resources to structural protection while the wildfire spreads. The General Plan also recommends that rural development should be most restricted where natural fire hazards are high, fire protection is limited, and road access prevents timely response by firefighting personnel and rapid evacuation by residents. General Plan Public Safety Element **Goal PS-3.1** states: "Prevent unnecessary exposure of people and property to risks of damage or injury from wildland and structural fires." Policy **PS-3b** states: "Consider the severity of natural fire hazards, potential damage from wildland and structural fires, adequacy of fire protection and mitigation measures consistent with this element in the review of projects."

The project was reviewed by the Sonoma County Department of Emergency Services, and recommendations made by that Department (letters from Pete Martin dated 12/11/01 and 12/12/01). It was the opinion of the Department of Emergency Services that, provided their recommendations are followed, there would be no significant impact from a fire perspective to the environment, nor should there be an increase in fire incidence due to this project. The recommendations have been incorporated into mitigation 7.g below, and the impact is considered less than significant with this mitigation measure.

No new personnel or equipment would be required for the Kenwood Fire Protection District to serve the project if the mitigation measures identified below are implemented. (Personal communication, Bob Uboldi, Kenwood Fire Chief, February 26, 2002) To reduce fire hazard to residences and a resort within a high fire hazard area, the following mitigation measures are necessary:

7.g. Mitigation Measures:

- 1) All conditions required by the County of Sonoma Department of Emergency Services (DES) and Kenwood Fire Protection District shall be implemented prior to occupancy of any portion of the project. The minimum requirements for the project are within the DES document "Fire Safe Standards and Commercial Development Guide". Detailed plans covering emergency access, water supply (including required water tank and associated installations, underground main lines, laterals, valves, connections, etc.), fire alarms, sprinklers, propane tanks, hazardous materials management, and all other requirements shall be reviewed and approved by DES prior to building permit issuance.
- 2) A written vegetation management plan for the overall project and specific vegetation management plans for each road, structure, and building envelope shall be submitted to DES prior to building permits being issued for development on the project site. The vegetation management plan shall conform to all necessary requirements of DES, and shall be fully implemented prior to occupancy of any building on the project site. Fuel modification for defensible space is required within a minimum 150 foot radius down slope from every building envelope, as defined by DES. Additional fuel management may be required in areas exceeding 30% slope, and at the heads of canyons or drainages. All other requirements of DES, as described in the letter from DES staff dated December 11, 2001 shall be implemented, along with additional requirements as required during the vegetation management plan preparation and approval process.
- 3) Access to the site shall meet the standards and requirements for road widths and paving, bridges, culverts, gates, turnouts, grades, turning radius, turnaround and vegetation clearance as specified in the County Fire Code, Commercial Development Guide, Fire Safe Standards, Uniform Fire Code, Uniform

Building Code, and Vegetation Management Planning Requirements, as necessary. The access road to the inn shall be constructed to commercial standards, while driveways to individual residences shall comply with fire safe standards and requirements for residential roads.

- 4) The water supply for fire protection shall be developed in accordance with National Fire Protection Association Standard 1231 and Sonoma County requirements. Fire sprinkler systems shall be installed in all residential structures, the Inn/restaurant, the spa, and all other structures that exceed 5000 square feet, lack acceptable access or have other fire code deficiencies.
- 5) Fire hydrants shall be provided each 500 lineal feet along the main access road (except where exempted by DES) and no structure shall be in excess of 150 feet from a fire hydrant. Larger structures shall have fire hydrants within 150 feet of all exterior portions of the building. All hydrants shall be readily accessible to fire apparatus. Fire hydrants shall be Clow Model 960 or equal.
- 6) All fire sprinkler systems require monitored water flow and tamper switches. Guest rooms and adjoining facilities shall have an integrated fire alarm system as required by applicable codes. All systems shall be supervised by an approved Central Station Service.
- 7) Rooms or areas that accommodate 50 or more persons shall meet all state and local requirements for such use.
- 8) Access gates and sprinklered buildings shall be equipped with Knox locks or boxes to facilitate emergency access. This equipment may be obtained through the Kenwood Fire Department.
- 9) Non-flammable roofs shall be used on all structures onsite, and shall be required on all residences as part of the CC&Rs.

8. HYDROLOGY AND WATER QUALITY

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<u>X</u>	—	—	—
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<u>X</u>	—	—	—
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<u>X</u>	—	—	—
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	—	—	<u>X</u>	—

- | | | | | |
|---|--------------|-----|-----|--------------|
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <u> X </u> | ___ | ___ | ___ |
| f) Otherwise substantially degrade water quality? | <u> X </u> | ___ | ___ | ___ |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | ___ | ___ | ___ | <u> X </u> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | ___ | ___ | ___ | <u> X </u> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | ___ | ___ | ___ | <u> X </u> |
| j) Expose people or structures to inundation by seiche, tsunami, or mudflow? | ___ | ___ | ___ | <u> X </u> |

Comment:

8.a. Potentially Significant. Wastewater from the project would be treated by individual septic systems and leach fields for each residential lot, and by separate septic systems and leach fields for the winery and inn/spa/restaurant.

The leach fields for the inn, restaurant and spa, and the winery are planned to be located on alluvial soils in what may be a significant groundwater recharge area. The alluvial area currently absorbs most of the rainfall that falls on the watershed of the streamcourse running through the property. Engineers and planners involved with the project have observed that no surface runoff appears in the streamcourse below the gently sloping areas near the toe of the plateau slopes until more than about 5-10 inches of rainfall is received during any single period. This indicates that the alluvial area near the toe of the slopes and on the flatlands serves as a groundwater recharge area. The County's groundwater maps indicate that the area is Groundwater Availability Zone 1.

Objective RC-3.1 of the Resource Conservation Element of the General Plan states: "Preserve watersheds and groundwater recharge areas by avoiding the placement of potential pollution sources in areas with high percolation rates." **Objective RC-3.3** states "Preserve and enhance the quality of surface and groundwater resources." The following General Plan policies are, or may be, relevant as well:

RC-3d: Continue to encourage the construction of wastewater disposal systems designed to reclaim and reuse treated wastewater on agricultural crops, and for other irrigation and wildlife enhancement projects.

RC-3e: Encourage wastewater disposal methods which minimize reliance on discharges into natural waterways. If discharge is proposed, review and comment on projects and environmental documents and request that projects maximize reclamation, conservation and reuse programs to minimize discharges and protect water quality and aquifer recharge areas.

RC-3f: The Environmental Health Department shall review all subdivisions using septic systems so that leachants do not contaminate groundwater recharge areas. Consider on-site wastewater management districts in important recharge areas.

RC-3i: Actively pursue the abatement of failing septic systems near waterways.

A septic system feasibility study (Wastewater Treatment and Disposal System Feasibility Study, Adobe Associates, Inc., 6/14/01) was prepared for this project. The study recommended that: (1) The wastewater disposal system for the Events Center and Inn and Restaurant should incorporate wastewater pretreatment; (2) The wastewater disposal field should be located in the upper area of the alluvial soils; (3) If a standard trench system is selected as the preferred disposal field, the field shall be pressure dosed to insure adequate wastewater distribution; and (4) Expansion areas for primary systems in the upper alluvial soils be designed for aboveground systems.

Application for wastewater discharge requirements must be filed with the San Francisco Bay Regional Water Quality Control Board. A waiver or an approval of the requirements is typically required by the County prior to final map recordation, and a letter of acceptance is required prior to building permit issuance. A copy of the waste discharge permit is required prior to building occupancy.

The Regional Water Quality Control Board (RWQCB) has recommended that, because of the size of the project and its potential impacts to water quality within a groundwater recharge area, the project install an advanced treatment system that permits reuse of the water onsite (Personal communication, Blair Allen, 1/9/02).

Addendum #2 to the Wastewater Treatment and Disposal (February, 2002) states that wastewater from the Inn, restaurant, and spa will receive pretreatment prior to disposal in the disposal field, and describes the system and process to be used.

The winery wastewater is proposed for treatment, aeration and storage for reuse. The pond would be located northeast of the winery, and is estimated to occupy approximately one acre. Addendum #2 to the Wastewater Treatment and Disposal (February, 2002) states that winery wastewater will also require pretreatment, and that a watertight aeration pond will be used to protect groundwater.

Additional review is needed to determine the potential for contamination of groundwater by septic system leachate and storage and reuse of treated wastewater from the winery. The review should describe mitigation measures that must be incorporated into the septic system design to protect groundwater.

The review should evaluate the need for ongoing monitoring of groundwater quantity and quality at and downslope of the proposed leachfields on the valley flatlands area. The need for a contingency plan should be considered to identify measures to be taken to stop and prevent contamination of groundwater should that occur.

The septic system feasibility study found that all of the 11 proposed residential parcels are in areas of free draining soils outside areas of groundwater recharge. The County's normal septic system review process includes adequate measures to prevent water contamination from residential septic systems.

- 8.b. Potentially Significant Impact.** The project proposes an Inn with 50 rooms in 26 separate cottages, a restaurant, spa, pools, winery, events area, retail store, and 11 residences on approximately 183 acres. The project area lies within a #1 groundwater availability area on County maps. A site-specific report by E. H. Boudreau of Sebastopol entitled "Geology & Groundwater Potential of the Auberge Resorts Property, Kenwood, California" was prepared in October, 2000. The report concludes that there is adequate groundwater in the area to support the proposed uses. The report estimates that the project would use a total of 26 acre-feet of water, with 6 acre-feet needed for the residences, and 20 acre-feet

for the inn and restaurant. It also estimates that 10% of rainfall falling on the property percolates to the aquifer, amounting to 50 acre-feet per year, with additional recharge of the aquifer occurring from surrounding properties. The spa and winery are not mentioned in the report, and no water use calculation for landscaping was made.

Additional analysis should be done to determine the total potential water use for the project. The aquifer depends on recharge to sustain its health, and the projected amount of water use could affect the level of groundwater available to this or other properties that depend on the water. In addition, the winery events area and Lot#1 are located in the groundwater recharge area. It appears that approximately 5 acres of the 16-acre winery parcel would be covered by structures and paved surfaces, while an additional .5 acres would be covered by the winery pond with an impermeable liner. Total coverage amounts to 34% of the winery parcel, affecting the groundwater area underneath its surface.

Relevant General Plan objectives and policies regarding water resource include the following:

Objective RC-3.1: Preserve watersheds and groundwater recharge areas by avoiding the placement of potential pollution sources in areas with high percolation rates.

Objective RC-3.2: Provide development standards in recharge areas to maintain groundwater supplies.

Objective RC-3.3: Preserve and enhance the quality of surface and groundwater resources.

Objective RC-3.4: Insure that land uses in rural areas be consistent with the availability of groundwater resources.

Policy RC-3a: Grading, filling and construction should not substantially reduce or divert any stream flow that would affect groundwater recharge.

Policy RC-3b: Require groundwater monitoring programs for all large scale commercial and industrial uses using wells.

Due to water use on the project site, as well as a reduction of recharge area, significant impacts to water resources and the groundwater table may occur. Further analysis of impacts to groundwater recharge and availability, along with mitigation measures to reduce impacts, is necessary.

- 8.c. Potentially Significant Impact.** Significant grading will be needed to complete the proposed development. The access road and other portions of the development are proposed in areas with steep slopes. Erosion of onsite soils and the resulting sedimentation of waterways is a significant concern, and measures must be taken to control and minimize erosion. Additional analysis of the potential impacts of erosion and sedimentation should be performed, as described under item 6.b of this checklist.
- 8.d. Less than Significant.** It is unlikely that flooding would be caused on or off site by runoff produced by this site. Because of the alluvial soils in the valley flatlands, and the fact that these are a major groundwater recharge area, runoff is unlikely to cause surface flooding on or offsite.
- 8.e. Potentially Significant Impact.** Existing or planned stormwater systems are unlikely to be affected by development on this site due to the nature of the alluvial soils capturing the majority of runoff. However, due to the extent and intensity of the development and the diverse land uses involved, there is potential for the addition of significant amounts of polluted runoff from this site entering into groundwater or local creeks. Analysis of the potential sources and effects of pollution entering the ground and/or surface water is necessary.
- 8f. Potentially Significant.** See items 8.a and 8.e above.
- 8.g. No Impact.** No flood hazard area or 100 year floodplain is designated on the project site. No structures are placed closer than 50 feet from the nearest streamcourse.
- 8.h. No Impact.** No flood hazard area or 100 year floodplain is designated on the site.

8.i. No Impact. No people or structures would be subject to risk associated with flooding, or the failure of a levee or dam. No dam structures or levees are located on or upstream of the project site.

8.j. No Impact. No hazards due to seiche, tsunami, or mudflow affect this property.

9. LAND USE AND PLANNING. *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Physically divide an established community?	—	—	—	<u>X</u>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<u>X</u>	—	—	—
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	—	—	—	<u>X</u>

Comment:

9.a. No Impact. The proposed project would not physically divide any established community.

9.b. Potentially Significant Impact. A General Plan Consistency Determination was prepared for the project, concluding that the project as proposed is inconsistent with the General Plan and the North Sonoma Valley Specific Plan (*Sonoma County Permit and Resource Management Department, July 6, 2001*). It states that amendments of the General Plan text and Land Use Map and the North Sonoma Valley Specific Plan's Land Use Map would be required for the project to achieve consistency. In addition, the analysis states that the project's potential impacts on traffic congestion on Highway 12 may require the Board of Supervisors to determine that a public benefit exists, pursuant to Objective CT-2.1. The analysis was based in part on comparing the proposed project to a previous approval (1984) for the entire Graywood Ranch property that was reflected in General Plan Policy LU-14r, adopted in 1989. Policy LU-14r states:

LU-14r: The "Diverse Agriculture" and "Recreation and Visitor Serving Commercial" designations applied to Graywood Ranch (APNs 51-020-06, 10, 19, 32 and 33 and 51-010-13 and 17) are intended to accommodate an approved development consisting of 18 residential parcels, a 35 {*actually* 36}-room hotel and a winery, each on separate parcels, an agricultural parcel and a residual parcel. It is the intent of the general plan to:

- (1) exempt these parcels from the 10 acre minimum lot size requirement of the "Diverse Agriculture" land use category; and
- (2) allow modification of the size and location of these parcels without further amendment of the land use map.

Any proposal to increase the total number of lots or the size of the hotel shall require a general plan map and/or text amendment.

In examining the consistency of the project with Policy LU-14r, one must look at development over the entire Graywood Ranch property, including this application and an application for subdivision of the western portion of the Graywood Ranch which has been submitted. It proposes a total of 6 parcels over 294 acres (the

western portion) of the original 477-acre property. Four residences and one to two second units currently exist on that portion, and the subdivision would permit 3 additional residential units to be constructed on newly-proposed vacant parcels. One parcel (Lot 4) would contain two homes and the second units, for a total of 7 residential units on the western portion of the Graywood Ranch property (not counting second units).

When both projects are considered, the total number of proposed residential parcels on the entire Graywood Ranch property comes to 17, and the total number of homes would add up to 18. LU-14r allows 22 parcels with 19 primary residences. It is assumed that each parcel would retain the ability to apply for additional residential units in the manner prescribed by zoning on a case by case basis unless development restrictions are imposed, as with the original approval.

The inn/restaurant/spa and the winery/events center as proposed increase the intensity above the development approved by the County in 1984 and anticipated in General Plan policy LU-14r. The original inn was set at 36 rooms (now proposed for 50), and no restaurant or spa open to the public by reservation was previously proposed. In addition, no events center or retail outlet was included in the original proposal for the winery.

The consistency analysis raises four primary issues in examining both projects proposed for the Graywood Ranch: (1) Protection of agricultural lands; (2) Additional residential lots; (3) Traffic and Circulation; and (4) Community Separator/Scenic Landscape Unit.

Refer to 2b for a full discussion of the effects of the project on agricultural lands in relation to general plan policies.

Regarding residential lots, the applicant proposes that a reduction of residential units offsets the increase in the number of rooms of the inn from 36 to 50. They discuss an "exchange" of 3 residential lots for the increase in 14 rooms. However, there is also an increase in intensity related to a spa, a restaurant open to the public by reservation, special events, and winery/retail store area.

Regarding traffic and circulation, the analysis lists General Plan objectives and policies that appear to correlate development with levels of service and roadway improvements. The Highway 12 corridor appears to be a special circumstance, with the local community strongly wishing to retain the rural character of the area by maintaining a scenic two-lane country road, and having long opposed the development of a freeway or four lane highway through the Sonoma Valley. Therefore, improvements to the highway are necessarily limited to those that can ameliorate existing and potential detrimental conditions, further implying that development of areas outside of urban service centers should be limited. The general plan consistency analysis noted that only the Board of Supervisors, at their sole discretion, can make the determination that the proposed trail easement and the potential increase in transient occupancy tax constitute a "significant overriding public benefit" as required by Objective CT-2.1 and Policy CT-2b. Refer to the Transportation/Traffic section 15a for a discussion of traffic congestion resulting from the project.

With regard to the Community Separator/Scenic Landscape Unit issue, the consistency analysis lists relevant General Plan goals, objectives and policies, and raises issues that are similar to but expand upon those listed in the Aesthetics section 1a of this Initial Study.

Goal LU-5: Identify important open space areas between the county's cities and communities. Maintain them in a largely open or natural character with low intensities of development.

Objective OS-1.2: Retain a rural character and promote low intensities of development in community separators. Avoid their annexation or inclusion in spheres of influence for sewer and water service providers.

Objective OS-1.3: Provide opportunities for consideration of additional development in community separators in exchange for permanent open space preservation and other overriding public benefits.

Objective OS-1.4: Preserve existing specimen trees and tree stands within community separator areas.

Policy OS-1a: Avoid amendments to increase residential density in community separators, since these densities were established based upon the policies set forth in other elements of this plan as well as the open space, separation and visual considerations identified in this section. The integrity of community separators cannot be maintained at densities in excess of one unit per ten acres. However, under no circumstances shall this policy be used to justify an increase in density from that designated on the land use map.

Policy OS-1b: Avoid commercial or industrial uses in community separators other than those which are permitted by the agricultural or resource land use categories, except as may be authorized by policy OS-1c below. Consider amendments for outdoor recreational or other uses with a low intensity of structures only in those community separators along the Highway 101 Corridor.

Policy OS-1c: Notwithstanding policies OS-1a, OS-1b, LU-5c, the policies of the Agricultural Resources and Public Facilities Elements, and the densities set forth on the land use map, the Board of Supervisors may, through a development agreement or other appropriate mechanism, allow additional or varied development within community separators on a case by case basis if, at a minimum, the following criteria are met:

- 1) permanent open space preservation is provided through open space grants to the County and/or third party land trust.
- 2) development is clustered, concentrated or located to maintain the visual quality of the separator.
- 3) in addition to providing permanent open space preservation, the development includes other public benefits which equal or outweigh the impacts of placing such development within the separator.
- 4) the development is accompanied by a visual analysis which demonstrates that the development either is not detrimental to or, in fact, enhances the visual quality of the separator as a whole.
- 5) adequate additional public services and infrastructure are available to serve the development.
- 6) the development is compatible with surrounding properties, especially those used for agricultural pursuits.
- 7) where open space grants are offered by way of easement as opposed to fee title, the development proposal includes a landscaping and maintenance plan which retains or enhances the visual integrity of the permanent open space.

In addition to the mandatory criteria set forth above, special consideration will be given to projects which incorporate one or more of the following:

- 1) aggregation of parcels within the separator to achieve a project design which enhances the separator as a whole.
- 2) creative developer/city/county financing mechanisms to maintain and preserve open space or parkland which may be dedicated in fee as part of the proposed development.
- 3) project design features which provide for pedestrian or bicycle links between the communities on either side of the separator and to any parkland which may be dedicated in fee as part of the proposed development.

Nothing set forth in this policy shall require the Board of Supervisors to allow this additional development in community separators. Development, if any, proposed pursuant to this policy may be allowed after public hearing if the Board, in its sole discretion, determines that the proposed development is desirable for the community as a whole and is otherwise consistent with the General Plan and the criteria set forth above.

Policy OS-1e: Require that new structures meet the following criteria:

- 1) they are sited below exposed ridgelines.
- 2) they use natural landforms and existing vegetation to screen them from view from public roads. On exposed sites, screening with native, fire retardant plants may be required.
- 3) cuts and fills are discouraged and where practical, driveways are screened from public view.
- 4) utilities are undergrounded where economically practical.

Exempt agricultural accessory structures from this policy if their use does not require a use permit in the zoning ordinance. If compliance with these standards would make a parcel unbuildable, site structures where minimum visual impacts would result.

Policy OS-1f: Use the following standards in addition to those of Policy OS-1e for subdivisions in community separators:

- 1) establish building envelopes for structures. Consider use of height limitations if necessary to further mitigate visual impacts.
- 2) use clustering to reduce visual impact where consistent with the land use element.
- 3) locate building sites and roadways to preserve significant existing tree stands and significant oak trees.
- 4) to the extent allowed by law, require dedication of a permanent scenic or agricultural easement at the time of subdivision.

Goal OS-2: Retain the largely open, scenic character of important scenic landscape units.

Objective OS-2.1: Retain a rural, scenic character in scenic landscape units with very low intensities of development. Avoid their inclusion within spheres of influence for public service providers.

Objective OS-2.2: Provide opportunities for consideration of additional development in scenic landscape units in exchange for permanent open space preservation.

Policy OS-2a: Avoid amendments to increase residential density in scenic landscape units in excess of one unit per ten acres. The land use plan may designate a lower density or larger minimum lot size.

Policy OS-2b: Avoid commercial or industrial uses in scenic landscape units other than those which are permitted by the agricultural or resource land use categories.

Policy OS-2c: (see language of Policy OS-1c).

Policy OS-2e: (see language of Policy OS-1e).

OS-2f: (see language of Policy OS-1f).

Policy OS-2g: Identify critical scenic areas within designated scenic landscape units. To the extent allowed by law, consider requiring dedication of a permanent scenic or agricultural easement at the time of subdivision for properties within these critical scenic areas.

Policy OS-2i: For development on parcels located both within scenic landscape units and adjacent to scenic corridors, apply the more restrictive siting and setback policies to preserve visual quality.

The applicant has not proposed the use of Policies OS-1c or OS-2c. The major points of inconsistency appear to involve the intensification of the commercial uses contemplated by Policy LU-14r (Policies OS-1b and OS-2b), and the consequent reduction in the "rural scenic character". (Objectives OS-1.2 and 2.2).

9.c. **No Impact.** No such plan exists for the area or region.

10. MINERAL RESOURCES. *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the state?	___	___	___	<u>X</u>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	___	___	___	<u>X</u>

Comment:

10.a. No Impact. No mineral resource has been mapped or designated on this property.

10.b. No Impact. No mineral resource has been mapped or designated on this property.

11. NOISE. *Would the project result in:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Exposure of persons to, or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	___	<u>X</u>	___	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	___	___	<u>X</u>	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	___	___	<u>X</u>	
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	___	<u>X</u>	___	
e) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	___	___	<u>X</u>	

Comment:

11.a. Less than Significant with Mitigation Incorporated. Except for the winery and its events center, the project is not likely to generate noise in excess of general plan standards, as inns, restaurants, and residences are relatively quiet uses. Exterior noise generated at wineries occurs during the crush

season and is generally considered less than significant at distances greater than 300 feet. The General Plan Noise Element lists concerts, special events and other activities generating amplified outdoor sound as a potentially significant source of outdoor noise in Sonoma County. Amplified music outdoors may occur in the events area, affecting nearby residences. The closest existing residence is approximately 700 feet from the winery/events area, however a new residence proposed on the western portion of the Graywood Ranch would be located on an existing lot that lies adjacent to the winery parcel, and could potentially be as close as 250 to 300 feet away. Relevant sections of the General Plan Noise Element are as follows:

Objective NE-1.3: Protect the present noise environment and prevent intrusion of new noise sources which would substantially alter the noise environment.

Objective NE-1.4: Mitigate noise from recreational and tourist serving uses.

Policy NE-1c, 2) Reduce the applicable standards in Table [NE-2](#) by five dBA for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

Policy NE-1h, 5. in unincorporated areas of the County, it shall be unlawful to create noise which exceeds the standards of Table [NE-2](#), as measured at the exterior of any noise sensitive use.

Policy NE-1m: Consider requiring the monitoring of noise levels for discretionary projects to determine if noise levels are in compliance with required standards. The cost of monitoring shall be the responsibility of the applicant.

11.a. Mitigation Measures:

- 1) All outdoor events that produce noise from the winery/events center shall comply with the General Plan Noise Element Table NE-2 at all winery parcel property lines.
- 2) The winery events center shall minimize noise as much as possible during the day, reduce noise significantly after 10 p.m., and shall take all necessary actions to maintain peace and quiet in the rural setting. The events management shall respond immediately to noise complaints from neighbors, and reduce noise as much as possible. Any noise complaints will be investigated by PRMD staff. If such investigation indicates the appropriate noise standard levels have been or may be exceeded, the PRMD shall first seek voluntary compliance from the permit holder. If noise complaints continue, the permit holder shall be required to submit a noise analysis prepared by a qualified professional noise consultant. Appropriate attenuation shall be installed. Failure to install the mitigation measures shall be considered a violation of the use permit conditions. Thereafter, If noise complaints arise again, monitoring of the noise by a qualified consultant at relevant property lines shall be required by PRMD, after which modification/reduction of the permitted noise levels or additional mitigation may be required, or the permit may be revoked. The costs of the noise analysis, monitoring, mitigation, and all related actions shall be the responsibility of the winery/events center owners/permit holder.

11.b. Less than Significant. Groundborne vibrations may be possible during construction activities on the site, but are expected to be less than significant, as they would be temporary, would occur only during the day, and would be located far from any other existing use.

11.c. Less than Significant. Existence of the project will increase ambient noise levels on and surrounding the site. The inn, restaurant, spa, and residences, including traffic from and to those areas will be relatively quiet uses, located on a plateau area far from other existing uses and are expected to be insignificant sources of noise. The winery operations, vineyards, tasting room, retail outlet, and events center will increase ambient noise levels on the valley floor as well, however due to their placement more than 300 feet from any other existing or proposed residence, impacts are expected to be insignificant.

11.d. Less than Significant with Mitigation Incorporated. Construction activities for the project would increase ambient noise levels temporarily, and the winery/events center would periodically produce noise from amplified music and events. Construction activities are typically limited to the daytime, when residents are less likely to be affected. It is not known whether blasting would be needed to develop

access roads or building foundations for the project. However, if blasting were to be used, the following mitigation measure would reduce noise impacts to a less than significant level.

11.d. Mitigation Measure

- 1) Any blasting activities during construction on the project site shall occur only between the hours of 9 a.m. and 5 p.m.

11.e. Less than Significant. Currently one airplane uses the airstrip located on the western portion of the Graywood Ranch. The airplane used is a small, quiet aircraft, and is unlikely to cause significant noise impacts to residents, guests, or employees of this project.

12. POPULATION AND HOUSING

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	___	___	<u>X</u>	___
b) Displace substantial numbers of existing housing stock, necessitating the construction of replacement housing elsewhere?	___	___	___	<u>X</u>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	___	___	___	<u>X</u>

Comment:

12.a. Less than Significant. The development of the Graywood Ranch is unlikely to induce substantial population growth in this or other rural areas within the Sonoma Valley because development of the Graywood Ranch was previously included and accommodated in the General Plan. In addition, the roads and infrastructure being developed here are only for the purpose of this development and do not continue further into outlying areas. Septic systems and wells for mutual on-site water systems will service the development, and no municipal sewage or water infrastructure is being extended to this area. The proposed inn, restaurant and spa, and the winery, tasting room, retail outlet and events center are likely to employ approximately 200 employees to service the site. The addition of employees is not expected to change residential land use densities in this area, as employees are expected to come from urbanized and urban service areas. Less than significant impacts are expected in this category.

12.b. No Impact. No housing stock would be displaced by the project, as there currently is none.

12.c. No Impact. No people would be displaced by the project.

13. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant With Mitigation	Less than Significant Impact	No Impact
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Incorporation

a) Would the project result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

Fire protection?	___	___	<u> X </u>	___
Police protection?	___	___	<u> X </u>	___
Schools?	___	___	<u> X </u>	___
Parks?	___	___	<u> X </u>	___
Other public facilities?	___	___	<u> X </u>	___

Comment:

13.a. Less than Significant. The project is served by the Kenwood Fire District, County Sheriff, Kenwood School and Santa Rosa City School Districts. Referrals were sent to the affected agencies, and facilities are considered adequate to serve this development. (*Personal communication Bob Uboldi, Kenwood Fire Chief, 2/26/02*) Developer fees will be used to mitigate potential impacts to school districts and other facilities See 7g (Hazards) for a discussion of fire hazard mitigation.

14. RECREATION

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood or regional parks, or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	___	___	<u> X </u>	___
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	___	<u> X </u>	___	___

Comment:

14.a. Less than Significant. The project contains a minimal number of residences, which typically increase the use of parks, and is primarily commercial in nature. In addition, the offer of a trail easement through the property may help to provide recreation for the residents as well as the public at large. Existing parks and recreational facilities are unlikely to be significantly affected by this project.

14.b. Less than Significant with Mitigation Incorporated. The applicant proposes to offer a trail easement for public dedication; however, construction of the trail is not proposed as part of this project. If the County accepts the easement and identifies funds for construction, the County Regional Parks Department would construct the trail at some future date.

The trail easement would be adjacent to the access road from Highway 12 to the most northerly residential parcels. If a future trail is constructed on this alignment, it will not cause additional impacts beyond those already described as likely to result from construction of the access road. The parking lots proposed for this project would accommodate parking associated with a public trail, if one is constructed in the future. Therefore, additional impacts related to parking will also not occur if a trail is constructed in the future.

The alignment of the trail easement through the upper part of the project site, which is the part that would pass through the chaparral and connect to Hood Mountain Park, has not yet been determined. There is a population of *Ceanothus sonomensis* on this part of the property. Impacts to this colony that might result from future construction of a trail will be avoided if the alignment of the trail easement is chosen to avoid these plants.

14.b. Mitigation Measures.

- 1) If a trail alignment is proposed through the undeveloped upper portion of the property in the future, the applicant and/or entity proposing the trail shall coordinate with the County Regional Parks Department. Selection of the trail easement in the vicinity of the population of *Ceanothus sonomensis* shall be coordinated with the California Department of Fish and Game.

15. TRANSPORTATION/TRAFFIC

Would the project:

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

Comment:

15.a. Potentially Significant Impact. The Sonoma County General Plan Circulation and Transit Element designates Sonoma Highway between Pythian Road and into the Sonoma Valley as a Primary Arterial with 2 travel lanes and a center turn lane, and with a "B management category" road improvement classification. The "B management" category includes necessary road improvements that moderately increase capacity, such as widening for continuous turn lanes, bridge widening and intersection improvements. The General Plan map of Sonoma Highway at the project site (Figure CT-2a) shows a LOS D/E for 1984, but Figure CT-2c shows a prediction for 2005 of LOS D from Santa Rosa to Oakmont, with no further designation into Sonoma Valley. The citizens of Sonoma Valley have continuously strongly opposed construction of a freeway type system and/or modifications to the highway that would affect the rural, scenic character of the valley. Therefore, improvements to Sonoma Highway are primarily based on improving traffic flow, while keeping rural densities low. The General Plan contains goals, objectives and policies relevant to traffic and circulation on the County's roadways. Relevant General Plan objectives and policies are as follows:

Policy CT-2x: Primary arterials are highway routes which carry large volumes of intercity or local traffic within urban areas and which place priority on the flow of traffic rather than on access to property. The following standards and those included in Table CT-3 on page 300 apply to "primary arterials":

- 1) The needed number of travel lanes is indicated on Figures CT-6a through 6i.
- 2) Allow access from abutting parcels if it does not interfere with traffic function. Encourage consolidation of driveways. Discourage parking, especially during peak hours.
- 3) Provide continuous left turn lanes in urban areas, where practical. Provide turning lanes at intersections with other arterial and collector highways. Signals shall favor the arterial.
- 4) Consider requiring urban improvement standards within urban service areas.

Objective CT-1.3: Require that circulation and transit system improvements be done in a manner which, to the extent practical, minimizes disturbance of the natural environment and reduces air and noise pollution.

Policy CT-1k: Where practical, locate and design improvements and new circulation and transit facilities to minimize disruption of neighborhoods and communities, disturbance of biotic resource areas, destruction of trees, and noise impacts.

Objective CT-2.1: Reduce congestion on the countywide highway system by maintaining a "C" level of service or better on designated arterial and collector roadways unless a lower level of service is shown on Figures CT-2c and CT-2d on pages 289 - 291, a lower level of service is determined to be acceptable due to environmental or community values existing in some portions of the County, or the project(s) which would cause the lower level of service has an overriding public benefit which outweighs the increased congestion that would result.

Objective CT-2.2: Correlate new development with roadway improvements necessary to maintain the countywide levels of service set forth in Objective CT-2.1 or better on arterial and collector roadways as is more fully explained in policy CT-2b.

Policy CT-2a: Use the levels of service shown on Figures CT-2c and CT-2d on pages 289 -291 to determine whether or not congestion is exceeding the desired level of service on the countywide highway system. Use area and/or project traffic analyses to determine whether intersection impacts or other localized congestion may also affect these desired levels of service.

Policy CT-2b: Assure that new development occurs only when a funding mechanism is available for improvements needed to achieve these levels of service specified in CT-2a above. If the Board determines that a project will provide significant overriding public benefit, the project may be exempt from this requirement.

CT-2e: Primary responsibility for funding intersection, right-of-way, and other needed localized improvements not identified as part of the countywide highway system belongs to individual projects.

The applicants commissioned a traffic study (Traffic Impact Study for Sonoma Country Inn; TJKM Transportation Consultants; January 19, 2001; amended in August 2001). Referrals describing the

project were sent to the County Department of Transportation & Public Works (DTPW) and CalTrans, who reviewed the traffic study. The traffic study discusses existing conditions and predicts conditions with the project.

The report indicates that current peak hour traffic volumes on the Sonoma Highway at Lawndale Road are 1757 vehicles during the morning weekday peak hour, 1633 vehicles during the p.m. peak hour, and 1544 vehicles during the Saturday midday peak. The project is anticipated to produce 707 total daily trips, with 42 trips produced during the morning peak hour (27 inbound/15 outbound), 61 during the evening (29 inbound/32 outbound), and 103 (40 inbound/63 outbound) during the Saturday peak hour. The trip numbers are based on trip generation research conducted by the Institute of Transportation Engineers, as published in the sixth edition of *Trip Generation* (1997), and research on Sonoma County wineries conducted by TJKM Transportation Consultants.

In terms of volume to capacity ratios, the traffic report sets the capacity at the maximum level of traffic for Level of Service (LOS) standard E, which is 2676 vehicles for the a.m. peak hour, 2644 vehicles for the p.m. peak hour, and 2676 vehicles for Saturdays. The change in volume to capacity ratios from existing to proposed conditions is approximately .01 to .04 (1 to 4%), while the change in actual vehicle trips range from 2% to 7%, all of which appear to be less than significant. For the Sears Point EIR, the County set significance thresholds at an increase of .05 in the Volume to Capacity ratio for roadway segments operating at LOS D or worse, and at a 5 second increase in delay at any intersection operating at Los D or worse. With regard to the delay at intersections, the study indicated an increase in delay at the Lawndale intersection of 5.8 seconds during the morning peak hour. The addendum to the study indicated a delay of 3.9 seconds. Clarification and peer review of the methodologies used and findings are recommended.

When Winery special events are added to the picture along with the maximum special events traffic that could occur in the area, assuming that surrounding wineries have special events at the same time (to obtain a cumulative analysis), the report shows that 452 trips are added to the flow rate out of an estimated 500 likely trips, (the report adds trips only to the Saturday peak hour) which amounts to a 28% increase in traffic, and a 17% increase in volume to capacity ratio. The cumulative condition of special events traffic appears to generate a significant increase in traffic volumes on Sonoma Highway. Cumulative analysis that includes other proposed projects was not conducted for weekday trips, however cumulative impacts were examined based on the Association of Bay Area Governments (ABAG) forecast of 13.46% population growth for the County by 2010. That analysis concluded that cumulative 2010 volumes including project traffic were less than significant, as the flow rate did not reach maximum capacity (in fact increased by a total of 23 to 28% toward maximum capacity), and volume to capacity ratios increased by an average of 9%.

Additional traffic analysis is necessary to determine whether cumulative impacts of the project are significant, taking into consideration other proposed projects in the area (in particular the Paradise/ Las Ventanas Resort near Chateau St. Jean) combined with future growth in the area. The conclusions of the TJKM study should be reviewed and the cumulative analysis expanded. Mitigation measures for project level and cumulative impacts should be identified.

- 15.b. Potentially Significant Impact.** Referrals describing the project were sent to the County Department of Transportation & Public Works (DTPW) and CalTrans, who reviewed the traffic study prepared for the project applicants by TJKM Transportation Consultants. CalTrans asked for clarification on the Level of Service standard (LOS) adopted for Sonoma Highway at the project site. The traffic consultant provided information on the Congestion Management Program (CMP) adopted by the Sonoma County Transportation Authority (SCTA) in December, 1995, however the CMP is no longer the document used for traffic planning.

Level of Service (LOS) is used to rank traffic operation on various types of facilities (i.e. roadways, intersections) based on traffic volumes and roadway capacity using a series of letter designations

ranging from A to F. LOS A represents free flow conditions and LOS F represents forced flow or breakdown conditions. LOS C is the established Level of Service according to Policy CT-2.1 of the General Plan, unless a lower level of service is either shown on General Plan Figures CT-2c or 2d, is determined to be acceptable due to environmental or community values, or the project has an overriding public benefit which outweighs the increased congestion that would result. This segment of Highway 12 is not designated for a lower level of service. Existing conditions on the Sonoma Highway in the area of the project are currently at LOS E. It appears unlikely that this area could obtain the General Plan established LOS C without the project, and with or without its planned configuration of two lanes plus third center turn lane. It may appear more realistic to assume, as the CMP previously assumed, that LOS E is the established level of service, and that neither the project nor cumulative plus project traffic volumes should increase above LOS E.

Further analysis of the traffic is needed, along with additional cumulative analysis as stated under item 15.a above.

- 15.c. Less than Significant.** A private airstrip exists adjacent to this site near the access/entry road. This project would not cause significant changes in air traffic patterns.
- 15.d. Potentially Significant Impact.** The design of the entry/exit to the project site from the Sonoma Highway could potentially be hazardous, due to increased traffic entering and exiting the site. The project applicants have discussed potential designs to ameliorate the hazardous conditions with both the County and Caltrans, including a right-turn lane into the site from the southeast, an acceleration lane exiting the site to the northwest, and a left turn center lane to the project from the northwest. The applicants are in the process of designing access that meets the safety requirements. It is recommended that a traffic consultant provide further study to analyze the operation and safety of the driveway entrance and the access road. The consultant should provide a full description of the improvements needed as well as any impacts of the improvements on other factors, such as significant trees near the road.
- 15.e. Less than Significant.** The access road to the inn and residences is being designed and will be constructed to meet all fire and emergency access requirements as a standard condition of the project.
- 15.f. No Impact.** Parking appears to have been designed to adequately accommodate all uses on the site.
- 15.g. Less than Significant.** The County Bikeways plan indicates that Highway 12 should have a Class II bike lane on the shoulder. As described above, Caltrans may require the applicant to construct road improvements near their driveway intersection. Caltrans standards would typically require a road shoulder that would provide adequate room for bicycle traffic.

16. UTILITIES AND SERVICE SYSTEMS.

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<u> X </u>	—	—	—
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<u> X </u>	—	—	—
c) Require or result in the construction of new storm water drainage facilities or expansion of existing				

facilities, the construction of which could cause significant environmental effects?	<u> X </u>	___	___	___
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<u> X </u>	___	___	___
e) Result in a determination by the Sonoma Valley County Sanitation District that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	___	___	___	<u> X </u>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	___	<u> X </u>	___	___
g) Comply with federal, state, and local statutes and regulations related to solid waste?	___	___	<u> X </u>	___

Comment:

16.a. Potentially Significant Impact. The project would not be served by public sewer. The project proposal includes septic systems and leachfields for each residence on individual lots, and leach fields in the winery area and flatlands for the winery/events area as well as for the inn/restaurant/ spa. The flatland's alluvial soils and high water table present potential problems related to contamination of groundwater by sewage produced by the project. The wastewater facilities also include a wastewater treatment pond for winery process water. The project could have significant impacts on water quality, as described in item 8.a.

16.b. Potentially Significant Impact. See item 16.a, above.

16.c. Potentially Significant Impact. Stormwater facilities will be required to effectively handle storm events that could potentially affect driveways, parking areas, and walkways on the site. These facilities must be designed with sensitivity with respect to both the preservation of biological resources and protection of water quality. Refer to items 4a, 6b, 8c and 8e for a discussion of stormwater management impacts.

16.d. Potentially Significant Impact. Given that the flatlands of the property are a #1 groundwater availability area, it appears that water supplies should be adequate to serve the proposed project from existing entitlements. However, as discussed in item 8.b, further study of the impacts to groundwater recharge is required.

16.e. No Impact. The project will not be served by public sewer.

16.f. Less than Significant with Mitigation Incorporated. Although the county landfill has adequate capacity to serve this project, cumulative impacts due to growth in the County will eventually affect the landfill unless each project contributes to the overall reduction of waste. The following mitigation measures would reduce impacts to less than significant.

16.f. Mitigation Measures:

- 1) All commercial facilities onsite shall recycle all "waste" products to the maximum extent, including the use of compost facilities for agricultural and landscaping waste if possible. Suitable storage locations for recyclable materials from the resort and winery shall be provided. Such storage shall be located a

minimum of 100 feet from any riparian area, and shall be designed and constructed to protect soils, water resources, biological resources, and all other aspects of the environment. Such storage shall be screened from all public areas.

16.g. Less than Significant. The project will be required to comply with all applicable federal, state, and local regulations related to solid waste as a standard permit condition. The mitigation measures designed to reduce impacts to the landfill above, would also serve to mitigate potential impacts in this category.

17. MANDATORY FINDINGS OF SIGNIFICANCE

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

Comment:

17.a. Potentially Significant Impact. The project has the potential to degrade the quality of the environment, reduce the habitat of fish or wildlife species, and reduce the numbers of rare plants and possibly animals. The project also has the potential to affect significant archaeological resources. See items 4.a, 4.b, 4.d, and 5.b for discussion.

17.b. Potentially Significant Impact. The project could have cumulatively considerable impacts related to aesthetics, agricultural resources, biological resources, land use, water resources, and traffic. See items 1.a, 2.c, 4.a, 8.b, 9.b, and 15.a for discussion.

17.c. Potentially Significant Impact. Further study of impacts that may cause substantial adverse effects on humans is required for aesthetics, traffic, and water quality. See items 1.a, 8.a, 8.b, and 15.a for discussion.

Public Scoping Meeting Comments

As a part of the scoping process for the *Sonoma Country Inn EIR* on May 14, 2002 Sonoma County Permit and Resource Management Department conducted a public scoping session regarding the proposed project. The purpose of the meeting was to identify environmental issues and concerns that the public may have about the proposed project so that these issues can be evaluated in this EIR.

A summary of the public scoping session is provided below. Specific comments and concerns identified at the scoping meeting were taken into account in the analyses for the *Sonoma Country Inn EIR*. After each specific comment below, the numbers in parentheses (**0.0**) refer to the section in the EIR where this topic is addressed. In a limited number of instances the specific comment is not address in the EIR. In these instances, the reason why the comment is not addressed is provided.

PLP00-0006
SONOMA COUNTRY INN
7945 HIGHWAY 12, KENWOOD
SCOPING MEETING
May 14, 2002

Questions from the public:

Q: Will the County own the trail? **Response: it will be an easement.**

Q: Will there be a vineyard? **Response: Not as part of this project.**

Q: What areas are to be cleared of trees for building sites? **(5.6 Biological Resources)**

Q: How large will the septic tank be? **Response: Approx. 20,000 gallons.**

Q: Fecal coliform presence at depth? **(5.4 Wastewater)**

Q: Lot D-what will happen to airstrip? **Response: private use by Graywood only.**

Q: Will Inn have liability insurance related to safety concerns with airstrip? **Response: airstrip is not on project site.**

Q: Have you considered wildlife? Fencing could trap deer or wildlife. **Response: State Department of Fish & Game reviewed and is ok with concept. No property lines can be fenced except the building envelopes.**

Q: What agricultural production will occur? **Response: Not decided.**

Q: Winery to be in ag designated area? **Response: Yes**

Q: Will you have Santa Rosa water or be on a well? **Response: Well.**

Q: How much water will be used? **Response: 15,000 gallons per day for winery, 400-600 gallons per day for residences.**

Q: Will you commit to not using pesticides on vineyards? **Response: Will grow organic fruits and vegetables for the restaurant.**

Q: Have you considered the cumulative impacts of multiple projects in the area? **(3.3 Cumulative Development Assumptions)**

Q: Will wells go dry? **(5.5 Water Supply)**

Q: How will location of trail be determined? **(3.0 Description of the Proposed Project)**

Q: Is the trail in the General Plan? Where is the trail to go? Is the trail in the plan? **Response: Mike Morrison said it is not a requirement of the plan.**

Q: Who will use the trail? **Response: Would be open to the public.**

Q: How will you cross Hwy 12? **5.2 Traffic and Circulation**

Q: Will applicant build overpass or tunnel? **Response: Not a part of this project.**

Raymond Willmers: How many buildings total? (**Response: Roughly 24**) Photo simulation from valley floor only (he lives above valley floor), concerned project will light up valley floor. (**5.8 Aesthetics**)

How will you analyze the lights? Will you identify the number of lights? (**5.8 Aesthetics**)

Terry Keeley: Quantity of water in g.p.d. - how much to be discharged and water quality. Testing should occur annually within 1 mile of disposal site for fecal chloride levels. Investigate connection to public water and sewer. (**5.3 Hydrology and Water Quality and 5.5 Water Supply**)

Traffic control. (**5.2 Traffic and Circulation**)

Flights out of private airstrip-wants document to address airstrip use. Overflights increasing, claims there was a “dogfight” with 2 planes. Runway should be shut down. (**5.1 Land Use**)

Planes not approved by FAA flight increases -planes taking off near a high access road. (**Not a comment on the scope of EIR.**)

It is an emergency landing area for medical helicopters. This should continue. (**Not a comment on the scope of EIR**)

Trail use could cause parking on Hwy 12 unless there is significant parking space on the property. Traffic safety? 3 traffic accidents, not conducive to bicycles. 300 vehicles a day, no highway parking. (**5.2 Traffic and Circulation**)

Comparison with Sears Point traffic? (**Project merits questions not a comment on the scope of EIR**)

Future vineyard could result in water contamination from pesticides, etc. (**Vineyard not a part of proposed project.**)

Need to consider noise abatement for special events. (**In response to this and similar comments scope of work was expanded to include analysis of noise issues. 5.10 Noise**)

Del Rydman of VOM Alliance: Parking-378 spaces in original plan, but 102 to 147 in Initial Study. (**3.0 Description of the Proposed Project**).

How will lighting affect observatory? (**5.8 Aesthetics**)

Need to look at cumulative effects of events. How many permits, how many people, total? (**5.2 Traffic and Circulation**)

Number of events changed from 60 to 30. (**3.0 Description of the Proposed Project**)

Events to be held at spa? (**Events will be held at winery**)

Is special events center appropriate for the land use? **(Project merits)**

Rare plants; Pipe vine and coffee ferns - are they on the property will they be protected? **(5.6 Biological Resources)**

Will septic system harm the oaks? **(5.6 Biological Resources)**

Need FAA reading on airport. **(Not a comment on the scope of the EIR)**

Water-why 3 wells? What safety features on pressurized pipes? **(5.5 Water Supply)**

Please state better usage in gallons per day. **(5.5 Water Supply)**

Too many hydrants for rural areas. **(Project Merits)**

Noise carries far in the valley. **(In response to this and similar comments scope of work was expanded to include analysis of noise issues. 5.10 Noise)**

Cumulative-140 homes in Oakmont, Deerwood, Chateau St. Jean, Kenwood Inn, Morbius. **(3.3 Cumulative Development Assumptions)**

7 day, 24 hour commercial service-out of character for Kenwood. **(Project Merits)**

Lack of emergency response during peak traffic hours. **(5.2 Traffic and Circulation)**

Signage: location, lighting, etc. **(Project Merits)**

Employees - are you counting subcontractors? Need offsite employee parking. How will area accommodate workers? **(3.0 Description of Proposed Project)**

Allison Hargrave (Valley of Moon Alliance): Checklist item 9-look at cumulative impacts-don't incorporate studies from 1984. **(4.0 Consistency with Public Plans)**

Item 12(a)-Not LTS-cumulative **(Determined to be less-than-significant in Initial Study)**

Item 13 - public service-cumulative impacts-response times during rush hour. **(5.2 Traffic and Circulation)**

Item 15 - Parking capacity-need to have parking for restaurant customers and employees, applicant states that there will be off-site parking. Where will it be? **(No off-site parking proposed)**

There is a state mandated response time for emergency services. **(Initial Study determined fire and police protection impact to be less-than-significant)**

No affordable housing for employees. **(Project merits)**

Linda Smithson: What are the landscaping plans? Will there be any cc&r's for this incorporating low water use and native plants? Concerned about future vineyard. **(3.0 Description of Proposed Project)**

John Foster, Engineer: Water supply and sewage disposal. **(5.4 Wastewater and 5.5 water supply)**

Baker property to east -surface springs serve their properties- septic system could contaminate springs- (has submitted letter). **(5.4 Wastewater and 5.5 water supply)**

Sonoma Creek was once known as Los Guilicos Creek. **(comment noted)**

Patricia Hansen: Shady Acres Lane- can't turn left into road from Hwy 12. In favor of left turn lane but against 3 lanes, need to protect trees on scenic highway. **(5.2 Traffic and Circulation)**

Hwy 12 is scenic. **(4.0 Consistency with Public Plans)**

Well is 400' deep-thinks water level has dropped. **(5.5 Water Supply)**

Concerned about irrigated vineyards. **(No vineyards are proposed as apart of the project)**

Noise level from special events is a problem. **(In response to this and similar comments scope of work was expanded to include analysis of noise issues. 5.10 Noise)**

Can't see the Milky Way anymore - lighting needs to be regulated-could affect observatory. **(5.8 Aesthetics)**

Fire protection is a problem. Fire District can't serve all these projects. **(Initial Study has determined fire protection impacts to be less than significant)**

Will need 100's of employees-no affordable housing locally. **(Project merits)**

People who work in Kenwood can use Kenwood Schools. **(Initial Study has determined school impacts to be less than significant).**

Dee Swanhuysen- Bay Area Ridge Trail Council: Trail should be separated from road as much as possible and separate from creek. **(Project merits)**

Need adequate staging area, safe crossing of Hwy 12, trail should be multi-use-equestrian, bicycle, hikers. (connection to Hood Mountain?) **(Project merits)**

Scot Stegeman: Land use- winery use not appropriate for ag land, having no vineyards. Winery does not appear to be a production facility, rather a value added commodity. **(4.0 Consistency with Public Plans)**

Trail-if trail is traffic generator, will there be enough parking? **(5.2 Traffic and Circulation)**

What about equestrian uses in parking area? **(5.2 Traffic and Circulation)**

Water balance-need cumulative demand analysis. **(5.5 Water Supply)**

There should be an independent water use/availability study? **(5.5 Water Supply)**

Noise-if ambient noise low at night, small increase can be significant. Measure at property lines not receptors. **(In response to this and similar comments scope of work was expanded to include analysis of noise issues. 5.10 Noise)**

Traffic- baseline should compare previously approved in GP with what is proposed now. Reasonable geographic scope for traffic, restaurant, hotel? **(5.2 Traffic and Circulation)**

Would restaurant be used for conferences? **(Based on project description -- no)**

Discourage any use of old technical studies – do not tier off of previous documents. **(1.5 Information Used to Prepare the EIR)**

Need to document why mitigations are not feasible. **(Comment noted)**

Quantifiable data showing why project's contribution to cumulative impact is de minimis. **(Comment noted)**

Kenwood Resident: Cited various General Plan policies. Overview is important. Scenic Resource district preserves scenic resource. **(4.0 Consistency with Public Plans)**

Concerned about visual character. **(5.8 Aesthetics)**

Design alternative, smaller project. Off-site alternatives. **(6.0 Alternatives)**

Written Responses to the Notice of Preparation

Sonoma County prepared the Notice of Preparation (NOP) for the *Sonoma Country Inn* in May 2002 and sent it to government agencies, special service districts, organizations, and individuals with an interest in or jurisdiction over the project in order to provide early consultation on the scope of the EIR. The NOP was sent May 2, 2002 and the comment period was until 30 days after receipt of the NOP.

Exhibit 8.5-1 presents a summary of the public comments received on the NOP during the review period together with an indication of where each issue is addressed in this EIR. In a limited number of instances the specific comment is not address in the EIR. In these instances, the reason why the comment is not addressed is provided.

The comment letters received on the NOP follow Exhibit 8.5-1.

**Exhibit 8.5-1
 Disposition of NOP Responses**

Commentor(s)	Comment or Topic	EIR Section
Karen Fowler State Office of Planning and Research, State Clearinghouse	Notice to State agencies regarding NOP	Comment only, no response necessary.
K. Thorne California Historical Resources Information System	Concurs with recommendations regarding Environmental Issues to be Evaluated in the EIR for Cultural Resources	Section 5.9 – Cultural Resources
Joe Lieber, Branch Chief Planning and Project Management District 4 Scenic Highway Coordinator California Department of Transportation	Agree with Initial Study that views from the Scenic Highway 12 need to be considered very carefully with such development.	Sections 4.0 -- Consistency with Public Plans and 5.8 – Aesthetics
	Expressed concern with the need to remove trees as part of Fire Protection and Management Plan and visual impacts.	Section 5.6 -- Biological Resources
	Concern with the large number of trees to be removed.	Section 5.6 -- Biological Resources
	Concerned that the discussion of proposed native tree species does not mention Valley Oak.	Section 5.6 -- Biological Resources
	Concerned about tree removal mitigation.	Section 5.6 -- Biological Resources
Jean Finney District Branch Chief Caltrans	Project driveway and left-turn channelization must be designed according to the standards in the Highway Design Manual.	Section 5.2 – Traffic and Circulation
	Wants an eight-foot paved shoulder along the frontage of the project.	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.

Commentor(s)	Comment or Topic	EIR Section
Jean Finney District Branch Chief Caltrans	Expressed concerns with number of trees to be removed, need to include Valley Oak in the landscaping plan and “survival requirements” for tree replacement	Section 5.6 – Biological Resources
	Agree with Initial Study that views from the Scenic Highway 12 need to be considered very carefully with such development.	Sections 4.0 -- Consistency with Public Plans and 5.8 – Aesthetics
	Expressed concern with the need to remove trees as part of Fire Protection and Management Plan and visual impacts.	Section 5.6 -- Biological Resources
	Concern with the large number of trees to be removed.	Section 5.6 -- Biological Resources
George Ellman 13285 Arnold Drive Glen Ellen, CA 95442	Wants a traffic study to include: Vehicles entering/exiting Highway 12 by time of day What trips will be by workers Impact of workers travelling to and from home Will road widening be required? Will stop lights be necessary?	Section 5.2 – Traffic and Circulation
Rita Nicholas 7680 Sonoma Highway Santa Rosa, CA 95409	Traffic impact – cumulative impact on Highway 12	Section 5.2 – Traffic and Circulation
	Water – how much water will be required	Section 5.5 – Water Supply
	Sewage – concerned about contamination of the groundwater	Section 5.4 – Wastewater

Commentor(s)	Comment or Topic	EIR Section
John McGourty, Board President The Villages at Wildoak Homeowners' Association	Traffic – concerned about the impact of additional traffic congestion	Section 5.2 – Traffic and Circulation
	Water – concerned about impact on well that provides irrigation water	Section 5.5 – Water Supply
	Amendment to the General Plan to benefit the few to the detriment of many sets a dangerous precedent.	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.
Bobbie Jenkins 830 Oak Lane Sonoma, CA 95476	Impact of development on loss of biotic habitat	Section 5.6 -- Biological Resources
John Foster 20 Carmello Road Walnut Creek, CA 94596	Expressed concern about hydrology and water quality issues. Impact on groundwater and existing springs in the area.	Section 5.3 – Hydrology and Water Quality
Mike and Kaarin Lee PO Box 885 Kenwood, CA 95452	Why must the General Plan constantly be amended?	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.
	Impact on Highway 12	Section 5.2 – Traffic and Circulation
	Impact on groundwater	Section 5.3 – Hydrology and Water Quality
	Impact of noise from special events	In response to this and similar comments scope of work was expanded to include analysis of noise issues. Section 5.10 – Noise
Sandra Baggelaar 640 Mountain Avenue Sonoma, CA 95476	Water – availability of water to serve the project	Section 5.5 -- Water Supply
	Traffic – impact on Highway 12, concern about increase in traffic accidents	Section 5.2 – Traffic and Circulation
Celeste Felciano 2001-B Adobe Canyon Road Kenwood, CA 95452	Oppose to project due to potential impacts to environment (such as more traffic, noise, reducing habitat for plants and animals).	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.

Commentor(s)	Comment or Topic	EIR Section
No name included	Opposed to project due to impacts on environment (such as wildlife, water, energy)	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.
Del Rydman, President Valley of the Moon Alliance	Adequacy of number of parking space	Section 5.2 – Traffic and Circulation
	Lights will cause a glow in the night and ruin the dark sky that now exists. Impact to the Ferguson Observatory	Section 5.8 – Aesthetics
	Number of events proposed	Section 3.0 – Project Description
	Air quality due to fireplaces	Section 5.10 Air Quality
	Concerned with rare plants, pipe vine and coffee fern	Section 5.6 – Biological Resources
	Conflict of visual effects and fire clearing of vegetation	Section 5.8 – Aesthetics
	Any fences proposed?	Section 3.0 – Project Description
	Wastewater impact on vegetation	Section 5.6 – Biological Resources
	Concern about continued use of airstrip	Section 5.1 – Land Use
	Wants water estimates in gallons per day	Section 5.5 Water Supply
	Adequacy of water system	Section 5.5 Water Supply
	Noise impacts especially from special events.	In response to this and similar comments scope of work was expanded to include analysis of noise issues. Section 5.10 – Noise
	Impact of 140 homes at the corner of Pythian and Highway 12	Section 3.3 – Cumulative Development Assumptions

Commentor(s)	Comment or Topic	EIR Section
Del Rydman, President Valley of the Moon Alliance	Emergency response time for fire, police, and ambulance	Determined to less-than-significant in Initial Study
	Traffic analysis must include all traffic generators? Also, include cumulative impacts.	Section 5.2 – Traffic and Circulation
	Wants a traffic level of service agreement with community, Caltrans and General Plan for the single road in and out of north end of valley	Section 5.2 – Traffic and Circulation
	Impact of 24 hour a day, seven day a week commercial operation in a rural agricultural community	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.
	Concerned about the number of events occurring along single one lane road and the impact on the community.	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.
	Wants no grape planting in order to keep the natural state of grasses and oaks.	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.
	Wants easement for hiking path and determination regarding usage by horses and bikes needs to be determined. Project should provide construction of the path, parking and access across Highway 12.	Section 3.0 Project Description and project merits.
Barbara S. Gay	Expressed concern about impact of traffic on Highway 12 and traffic accidents	Section 5.2 – Traffic and Circulation
Douglas S. Dempster 4829 Foster Way Carmichael, CA 95608	Need to study water sources and sewage disposal issues	Sections 5.5 Water Supply and 5.4 Wastewater
	Opposed to constructing homes and other structures on the slopes of Hood Mountain.	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.
	Concerned with fire damage	Section 5.6 Biological Resources

Commentor(s)	Comment or Topic	EIR Section
Ian Morrison 905 Adobe Canyon Road Kenwood, CA	Concerned with impact on their spring and source of water	Section 5.5 Water Supply
	Concerned about fire risks	Section 5.6 Biological Resources
	Impact on habitat and movement of native animals	Section 5.6 Biological Resources
	Traffic impact on Highway 12	Section 5.2 Traffic and Circulation
Lawrence V. Harper	Impact on water quality and availability	Sections 5.3 Hydrology and Water Quality and 5.5 Water Supply
	Impact on water quality due to location of septic tanks and / or domestic runoff created by residential development on parcels 8 –11.	Section 5.3 Hydrology and Water Quality
Patricia Hanson 696 Shady Acres Lane	Cumulative impact on north end of the valley, especially traffic	Section 3.3 -- Cumulative Development Assumptions
	Traffic concerns, especially accident danger	Section 5.2 – Traffic and Circulation
	Water availability and impact on existing wells	Section 5.5 – Water Supply
	Wastewater and septic concerns	Section 5.4 – Wastewater
	Impact on fire protection and emergency medical aid	Determined to less-than-significant in Initial Study
Kathy Pons PO Box 632 Kenwood, CA 95452	Opposed to big resort developments such as Sonoma Country Inn. Do not make changes to the General Plan just to accommodate this development.	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.
Harry and Cynthia Keeley PO Box 579 Kenwood, CA 95452	Water consumption impact – project will exhaust an already heavily depleted set of aquifers	Section 5.5 – Water Supply

Commentor(s)	Comment or Topic	EIR Section
Harry and Cynthia Keeley PO Box 579 Kenwood, CA 95452	Waste water disposal impact – wastewater could contaminate the water supply of homes within one mile radius of the project property boundaries.	Section 5.4 – Wastewater
	Traffic impact – concerned about adequacy of parking for project and for trail users and traffic impact on public safety and emergency services.	Section 5.2 – Traffic and Circulation
	Personal and property endangerment caused by aircraft accident – concerned about safety of airstrip	Section 5.1 – Land Use
	Visual impact – buildings will be visible on hillsides from hillsides and the valley floor	Section 5.8 – Aesthetics
Sam Guerrera 6446 Timber Springs Drive Santa Rosa, CA 95409	Concerned about cumulative impacts of all the proposed projects in the area	Section 3.3 -- Cumulative Development
	Project is out of character with the Valley’s rural setting	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.
Leanna L. Breese 1515 Lawndale Road Kenwood, CA 95452	Concerned about safety of turning movements into and out of project site. Wants a centerline on Highway 12.	Section 5.2 – Traffic and Circulation
Jim and Velma Sims 2011 Adobe Canyon Road Kenwood, CA 95452	Project would deplete water in Kenwood	Section 5.5 – Water Supply
	Project would increase traffic	Section 5.2 – Traffic and Circulation
	Cumulative impact will destroy what residents enjoy about Kenwood	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.

Commentor(s)	Comment or Topic	EIR Section
Allison Hargrave Battaile & Hargrave, L.L.P 703 2 nd Street, 4 th floor Santa Rosa, CA 95404 Counsel for Valley of the Moon Alliance	Initial Study Item 1.a. – applicant has not supplied vital information that the County must know before the EIR is prepared to adequately study the Project’s potentially significant impacts on the scenic vistas.	Sonoma County has accepted project application as complete and adequate for environmental review.
	Initial Study Item 1.b. – disagrees that there will be a less than significant impact on scenic resources within a state scenic highway.	Determined to less-than-significant in Initial Study Sections 4.0 Consistency with Public Plans and 5.8 Aesthetics do further discuss issue
	Initial Study Item 1.c. – not enough information to adequately study the potential degradation of the existing visual character or quality of the site and its surroundings.	Sonoma County has accepted project application as complete and adequate for environmental review. Also, Section 5.8 Aesthetics.
	Initial Study Item 1.d. – This is a potentially significant cumulative impact on day and nighttime views in the area with the combined new light sources from all the other proposed projects in this rural area.	Section 5.8 -- Aesthetics
	Initial Study Item 2.b. – Concerned that this project together with other projects in the area are inconsistent with General Plan agriculture policies.	Sections 4.0 -- Consistency with Public Plans and 5.1 – Land Use

Commentor(s)	Comment or Topic	EIR Section
Allison Hargrave Battaile & Hargrave, L.L.P 703 2 nd Street, 4 th floor Santa Rosa, CA 95404 Counsel for Valley of the Moon Alliance	Initial Study Item 2.c. – Wants discussion of cumulative impacts and potential for secondary impacts to agricultural lands	Section 5.1 – Land Use
	Initial Study Item 3.c. – Disagrees that there will not be a cumulative air quality impact.	In response to this and similar comments scope of work was expanded to include analysis of air quality issues. Section 5.10 – Air Quality.
	Initial Study Item 3.d. – concerned that leach fields could cause objectionable odors	Section 5.4 -- Wastewater
	Initial Study Item 4.a. – agrees project will have impact on candidate, sensitive or special status species.	Section 5.6 -- Biological Resources
	Initial Study Item 4.b. General Plan policy OS-5 should be followed. Discusses DFG setback requirements.	Section 4.0 Consistency with Plans and 5.6 – Biological Resources
	Initial Study Item 4.c. – agrees that the thinning of the forest will significantly impact the environment. Discuss impacts on potential jurisdictional wetlands.	Section 5.6 – Biological Resources
	Initial Study Item 4.d. – Discuss impacts on raptors and/or raptor habitats	Section 5.6 – Biological Resources
	Initial Study Item 4.e. – disagrees with Initial Study that impacts can be mitigated to a level of less than significant. Project will have significant effect on the forest.	Section 5.6 – Biological Resources
	Initial Study Item 6.a. – Require applicant to provide further analysis to determine if the location of any of the buildings and future residences violate Objective PS-1.2.	Sections 4.0 Consistency with Plans and 5.7 Geology / Soils

Commentor(s)	Comment or Topic	EIR Section
Allison Hargrave Battaile & Hargrave, L.L.P 703 2 nd Street, 4 th floor Santa Rosa, CA 95404 Counsel for Valley of the Moon Alliance	Initial Study Item 6.b. – Concerned about potential of landslides and erosion.	Section 5.7 -- Geology / Soils
	Initial Study Item 6.e. – County has not done an adequate study of groundwater in the Kenwood area. Wants more study of groundwater.	Section 5.5 – Water Supply
	Initial Study Item 7.b. – project could have potentially significant impacts and possible erosion, slope instability and rapid runoff. Potential storage of hazardous materials and the storm water run off from possible agricultural operations could have a significant impact on the environment.	Initial Study has determined that with mitigation incorporated impact will be less than significant.
	Initial Study Item 7.e. – increased use of airstrip could have impact on the safety of people.	Section 5.1 – Land Use
	Initial Study Item 7.g. – Project will expose people and structures to a significant risk of loss to wild land fires.	Section 5.6 – Biological Resources
	Initial Study Item 8.a. – portions of project are to be located on a significant groundwater recharge area. County must undertake a comprehensive study of the groundwater recharge area.	Section 5.5 – Water Supply
	Initial Study Item 8.b. – Geology & Groundwater Potential report prepared in 2000 by F.H. Boudreau is outdated and did not study project as proposed.	Section 5.5 – Water Supply

Commentor(s)	Comment or Topic	EIR Section
Allison Hargrave Battaile & Hargrave, L.L.P 703 2 nd Street, 4 th floor Santa Rosa, CA 95404 Counsel for Valley of the Moon Alliance	Initial Study Item 9.b. Agrees that project is inconsistent with the General Plan and the North Sonoma Valley Specific Plan. Board of Supervisors should not use fees for affordable housing as an overriding public benefit.	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.
	If an affordable housing fee is considered a public benefit such a fee must be correctly analyzed in the EIR.	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.
	Initial Study Item 11.a. – Concerned that this project and others will have a potentially significant impact on the current noise standards established in the General Plan.	In response to this and similar comments scope of work was expanded to include analysis of noise issues. Section 5.10 – Noise
	Initial Study Item 11.b. – expanded use of airstrip could expose people in the area to excessive noise levels.	Determined to less-than-significant in Initial Study
	Initial Study Item 12.a. – Cumulative impacts of this project and others and the secondary impacts of such projects will have potentially significant impact and may induce substantial population growth in the area.	Determined to less-than-significant in Initial Study
	Initial Study Item 13.a -- Project along with other projects will have significant impact on public services (fire protection, police protection and parks).	Determined to less-than-significant in Initial Study
	Initial Study Item 14.b. – project is not adequate for the employees, inn, restaurant, spa, winery and trail.	Initial Study has determined that with mitigation incorporated impact will be less than significant.
	Initial Study Item 15.a. – Opposed to the expansion of Highway 12.	This is a comment on the project merits and not scope of EIR. Section 1.1 EIR Requirement.

Commentor(s)	Comment or Topic	EIR Section
Allison Hargrave Battaile & Hargrave, L.L.P 703 2 nd Street, 4 th floor Santa Rosa, CA 95404 Counsel for Valley of the Moon Alliance	Initial Study Item 15.d. – Any connection to highway 12 is going to be hazardous	Section 5.2 – Traffic and Circulation
	Initial Study Item 15.e – mitigation seems inconsistent with the DFG 50 foot set back requirements for roads from the blue line stream.	Section 5.6 Biological Resources
	Initial Study Item 16.e. – If groundwater is inadequate it would be necessary to hookup to the County’s water supply.	Section 5.5 Water Supply
	Initial Study Item 16.f. – There will be a potentially significant impact and increased waste at the County’s landfill and decrease its limited capacity.	Initial Study has determined that with mitigation incorporated impact will be less than significant.
Frank and Kim Lewis Margaret Rowe 7778 Sonoma Highway Santa Rosa, CA 95409	Express concern about existing traffic on Sonoma Highway and project’s impact on traffic	Section 5.2 Traffic and Circulation
	Concerned about both the supply and quality of the groundwater in the area and project’s impact on water quality and availability.	Sections 5.3 – Hydrology and Water Quality and 5.5 – Water Supply
Philip Sales, Park Planning & Design Administrator Sonoma County Regional Parks	Discussed concern with development of the public trail. Stated that “we believe that the developer should design and construct the trail from Highway 12 to Parcel 11 and the EIR should cover all necessary impacts to allow for this.”	This is a comment on the project merits. The trail is however discussed in several sections of the EIR.

Telephone Calls

In addition to the comments at the scoping meeting and the written comments in response to the NOP County staff received telephone calls regarding the proposed project. A telephone log of the calls is provided on the next page.

Appendix 8.6 - A

LEVEL OF SERVICE – CONTROL DELAY RELATIONSHIP FOR SIGNALIZED INTERSECTIONS

Level of Service	Control Delay Per Vehicle (in seconds)
A	10
B	> 10 – 20
C	> 20 – 35
D	> 35 – 55
E	> 55 – 80
F	> 80

Control delay includes initial deceleration delay, queue move up time to first in line at the intersection, stopped delay as first car in queue, and final acceleration delay.

Source: Highway Capacity Manual 2000, Transportation Research Board

Appendix 8.6 - B

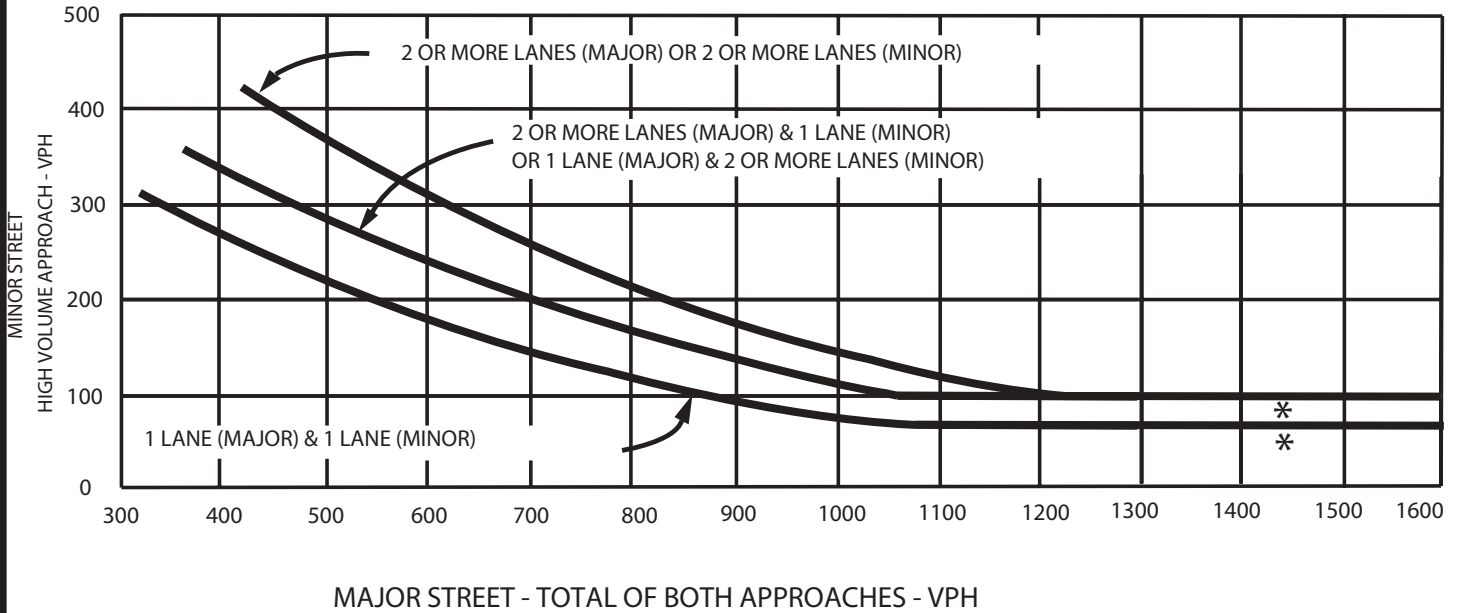
LEVEL OF SERVICE – AVERAGE CONTROL DELAY RELATIONSHIP FOR TWO-WAY STOP CONTROL (SIDE STREET STOP CONTROL) INTERSECTIONS

Level of Service	Average Control Delay Per Vehicle (in seconds)
A	0 – 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

Control delay includes initial deceleration delay, queue move up time to first in line at the intersection, stopped delay as first car in queue, and final acceleration delay.

Source: Highway Capacity Manual 2000, Transportation Research Board

PEAK HOUR VOLUME WARRANT (Rural Area)



*** NOTE**

100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE

Source: Caltrans Traffic Manual, 1996



CRANE TRANSPORTATION GROUP

Caltrans Rural Area Peak Hour Volume Warrant

Appendix 8.6 - D

Midblock Level of Service Definitions

Two-Lane Rural Highways

LOS A: Speeds approach 60 mph on two-lane highways. Almost no platoons of 3 or more vehicles are observed. Passing demand is well below passing capacity. Drivers are delayed no more than 30% of the time by slow-moving vehicles. Flow rate is below 420 passenger cars per hour (pcph), both directions, under ideal conditions.

LOS B: Speeds approach 55 mph or slightly higher. Platoons of 3 or more vehicles start to become frequent. Passing demand about equals passing capacity. Drivers are delayed up to 45% of the time by slow-moving vehicles. Flow rate is below 750 pcph, both directions, under ideal conditions.

LOS C: Average speeds exceed 52 mph. Platoon formation and platoon size increase noticeably. Passing demand exceeds capacity. Drivers are delayed up to 60% of the time by slow-moving vehicles. Flow rate is below 1200 pcph, both directions, under ideal conditions.

LOS D: Average speeds begin to drop below 50 mph. Platoons of 5 to 10 vehicles are frequent. Passing demand greatly exceeds passing capacity. Drivers are delayed up to 75% of the time by slow-moving vehicles. Flow rate is below 1800 pcph, both directions, under ideal conditions. Turning vehicles and/or roadside distractions cause major shock-waves in the traffic stream.

LOS E: Average speeds drop well below 50 mph. Passing is virtually impossible. Platooning becomes intense when slower vehicle or other interruptions are encountered. Drivers are delayed more than 75% of the time by slow-moving vehicles. Flow rate is below 2800 pcph, both directions, under ideal conditions.

LOS F: Heavily congested flow with traffic demand exceeding capacity. Volumes are lower than capacity, and speeds are below capacity speed.

Source: *Highway Capacity Manual*, Special Report 209, Transportation Research Board, 1994.

Appendix 8.6 - E

This appendix provides excerpts from the Kendall Jackson Winery EIR (SCH #92073056 April, 1994) and the Sears Point Raceway Amended EIR (SCH # 98012044, 1999) plus an analysis of Sonoma Country Inn impacts under the significance criteria from these two EIRs.

Analysis Using Older Significance Criteria

The Kendall Jackson EIR significance criteria could not be applied directly today, because they used a methodology to calculate the change in level of service that has since been superceded. However, they contain a criterion relevant to intersection operation that could be used today if found acceptable by the decision makers. That criterion stated that a decreased level of service at an unsignalized intersection would not be a significant impact unless the intersection meets signal warrants. In practical terms, a side street would need to have at least 75 vehicles per hour entering the intersection before a decrease in level of service would be considered. By contrast, the criteria developed for the Sonoma Country Inn EIR set a lower threshold: a decrease in level of service could be found significant if the side street has at least 30 vehicles per hour entering the intersection.

If that criterion from the Kendall Jackson EIR is applied to the Sonoma Country Inn project, most of the significant impacts to the unsignalized SR 12 intersections with Randolph, Adobe Canyon, and Lawndale would be found less than significant because the side street traffic volume would not be high enough to meet signal warrants. The following impacts would still be found significant using the Kendall Jackson EIR criterion:

In 2012 the cumulative impact at Randolph during the Friday AM peak hours would be significant, because the intersection would meet signal warrants at that time. The project's contribution to this impact would be cumulatively considerable with or without special events because the intersection would operate at LOS F and the additional delay caused by project traffic would exceed 5 seconds.

In 2005 the impact at the Adobe Canyon intersection would be significant due to cumulative special event traffic, because the intersection would meet signal warrants at that time. The project's contribution to this impact would be cumulatively considerable because the intersection would operate at LOS F and the additional delay caused by project traffic would exceed 5 seconds.

The Sears Point EIR significance criteria also used an methodology to calculate level of service changes that has since been superceded. However, one relevant criterion from the Sears Point EIR was carried forward in the Sonoma Country Inn EIR: project traffic would have a significant impact on an intersection that operates at LOS F if it increases the delay by five seconds or more. There would be no difference in the analysis of intersection impacts in the Sonoma Country Inn

EIR if the Sears Point EIR criterion was used, provided that current methodology was used to calculate level of service changes.

APPENDIX 8.7
AIR QUALITY METHODOLOGY AND ASSUMPTIONS

CALINE-4 MODELING

A dispersion model is a mathematical formulation that calculates quantities of pollutants in the air at specified receptors from information on the type and strength of sources of pollutants and information on weather conditions. For roadways, where the sources are moving vehicles, a line-source model is utilized.

The CALINE-4 model is a fourth-generation line source air quality model that is based on the Gaussian diffusion equation and employs a mixing zone concept to characterize pollutant dispersion over the roadway. Given source strength, meteorology, site geometry and site characteristics, the model predicts pollutant concentrations for receptors located within 150 meters of the roadway. The CALINE-4 model allows roadways to be broken into multiple links that can vary in traffic volume, emission rates, height, width, etc..

A screening-level form of the CALINE-4 program was used to predict concentrations.¹ A screening model is a simplified procedure that allows quick estimation of concentration under very conservative assumptions. Normalized concentrations for each roadway size (2 lanes, 4 lanes, etc.) are adjusted for the two-way traffic volume and emission factor. Calculations were made for a receptor at a corner of the intersection, located at the curb. Emission factors were derived from the California Air Resources Board EMFAC7-G computer program based on a 2002, 2005 or 2012 vehicle mix.

The screening form of the CALINE-4 model calculates the local hourly-averaged contribution of nearby roads to the total concentration. The other contribution is the background level attributed to more distant traffic. The one-hour background level was taken as 2.8 Parts Per Million (PPM) in 2002, 2.5 PPM in 2005 and 2.3 PPM in 2012. The eight-hour background concentration was taken as 2.1 PPM in 2002, 1.9 PPM in 2005 and 1.7 PPM in 2012. These backgrounds were estimated using isopleth maps and correction factors developed by the Bay Area Air Quality Management District.²

The screening procedure utilizes peak-hour traffic volumes as input and results in an one-hour averaged concentration, which corresponds to the state and federal one-hour ambient air quality standards. To calculate an eight-hour average concentration that corresponds to the state and national eight-hour ambient air quality standards, a “persistence” factor was used. Eight-hour concentrations were obtained from the one-hour output of the CALINE-4 model by multiplying the one-hour output by the persistence factor of 0.7.

¹ BAAQMD CEQA Guidelines – Assessing the Air Quality Impacts of Projects and Plans, Bay Area Air Quality Management District, April 1996, revised December 1999

² Ibid.

NEW VEHICLE TRAVEL EMISSIONS

Estimates of regional emissions generated by project traffic were made using a program called URBEMIS. URBEMIS (Version 6.6.2 of URBEMIS-2001) is a program that estimates the emissions that result from various land use development projects. Land use projects can include residential uses such as single-family dwelling units, apartments and condominiums, and nonresidential uses such as shopping centers, office buildings, and industrial parks. URBEMIS contains default values for much of the information needed to calculate emissions. However, project-specific, user-supplied information can also be used when it is available.

Inputs to the URBEMIS program include trip generation rates, vehicle mix, average trip length by trip type and average speed. Trip generation rates for project land uses were provided by the project transportation consultant. Average trip lengths and vehicle mixes for the Bay Area were used. Average speed for all types of trips was assumed to be 35 MPH, which is the default value recommended by the Bay Area Air Quality Management District.

The URBEMIS model run assumed summertime conditions with an ambient temperature of 85 degrees F, as recommended by the BAAQMD.

The analysis was carried out assuming a year 2003 vehicle mix as a worst-case assumption for project build-out.

FUNDAMENTAL CONCEPTS OF ENVIRONMENTAL ACOUSTICS

Noise is defined as unwanted sound. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels usually are measured and expressed in decibels (dB) with zero decibels (0 dB) roughly corresponding to the threshold of hearing. Decibels and other technical terms are defined in Exhibit 8.8-1.

Most sounds heard in the environment do not consist of a single frequency but, rather, a broad band of frequencies with each frequency differing in sound level. The intensities of each frequency combine to generate a sound. The method commonly used to quantify environmental sounds consists of evaluating all of the frequencies of a sound in accordance with a weighting which reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies than in the frequency mid-range. This is called "A" weighting, and the decibel level so measured is called the A-weighted sound level (dBA). In practice, the level of a sound source is conveniently measured using a sound level meter which includes an electrical filter corresponding to the A-weighting curve. Typical A-levels measured in the environment and in industry for different types of noise are shown in Exhibit 8.8-2.

Although the A-weighted noise level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a conglomeration of noise from distant sources which creates a relatively steady background noise in which no particular source is identifiable. To describe the time-varying character of environmental noise, the statistical noise descriptors L_{10} , L_{50} , and L_{90} are commonly used. They are the A-weighted noise levels equaled or exceeded during ten, 50, and 90 percent of a stated time period. A single-number descriptor called the L_{eq} is also widely used. The L_{eq} is the average A-weighted noise level during a stated period of time.

In determining the daily level of environmental noise, it is important to account for the different responses of people to daytime and nighttime noises. At night, exterior background noises generally are lower than the daytime levels. However, most household noise also decreases at night, and exterior noise becomes very noticeable. Further, most people sleep at night and are very sensitive to noise intrusion. To account for human sensitivity to nighttime noise levels, a descriptor, L_{dn} (day / night average sound level), was developed. The L_{dn} divides the 24-hour day into daytime (7:00 AM to 10:00 PM) and nighttime (10:00 PM to 7:00 AM) periods. The nighttime noise level is weighted ten decibels (10 dB) higher than the daytime noise level. The Community Noise Equivalent Level (CNEL) is another 24-hour average which includes both an evening and nighttime weighting.

Exhibit 8.8-1
Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit describing the amplitude of sound equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.
L_{01} , L_{10} , L_{50} , L_{90}	The A-weighted noise levels which are exceeded one (1), ten (10), 50, and 90 percent of the time during the measurement period.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of five decibels (5 dB) in the evening from 7:00 PM to 10:00 PM and after addition of ten decibels (10 dB) to sound levels in the night between 10:00 PM and 7:00 AM.
Day / Night Noise Level, L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of ten decibels (10 dB) to levels measured in the night between 10:00 PM and 7:00 AM.
L_{max} , L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Illingworth & Rodkin, Inc., Acoustical Engineers

Exhibit 8.8-2
Typical Sound Levels Measured in the Environment and Industry

At a Given Distance from Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Impression
	140		
Civil Defense Siren (100 feet)	130		
Jet Takeoff (200 feet)	120		Pain Threshold
	110	Rock Music Concert	
Pile Driver (50 feet)	100		Very Loud
Ambulance Siren (100 feet)			
	90	Boiler Room	
Freight Cars (50 feet)		Printing Press Plant	
Pneumatic Drill (50 feet)	80	In Kitchen With Garbage Disposal Running	
Freeway (100 feet)			
	70		Moderately Loud
Vacuum Cleaner (10 feet)	60	Data Processing Center	
Department Store			
Light Traffic (100 feet)	50	Private Business Office	
Large Transformer (200 feet)			
	40		Quiet
Soft Whisper (5 feet)	30	Quiet Bedroom	
	20	Recording Studio	
	10		Threshold of Hearing
	0		

Source: Illingworth & Rodkin, Inc., Acoustical Engineers

There are three general categories of noise effects on people:

- x Subjective effects of annoyance, nuisance, dissatisfaction
- x Interference with activities, such as speech, sleep, learning
- x Physiological effects, such as startling, hearing loss

Environmental noise levels mostly produce effects in only the first two categories.¹ However, there currently is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. This primarily is because of the wide variation in individual thresholds of annoyance and because of habituation to noise due to differing individual past experiences with noise.

An important way of determining a person's subjective reaction to a new noise, therefore, is to compare it with the existing environment to which one has adapted -- the so-called "ambient". In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by the hearers.

¹ Workers in industrial plants can experience noise in the last category.

In considering increases in A-weighted noise level, knowledge of the following relationships is helpful in understanding this report:

- x Except in carefully controlled laboratory experiments, a one-decibel (1 dB) change cannot be perceived
- x Outside a laboratory, a three-decibel (3 dB) change is considered a just-perceivable difference
- x A change of at least five decibels (5 dB) is required before any noticeable community response would be expected
- x A ten-decibel (10 dB) change is heard subjectively as approximately a doubling in loudness and would almost certainly cause an adverse community response