
CHAPTER 2. SUMMARY

2.1 INTRODUCTION

The following presents an overview of the environmental analysis of the direct and indirect impacts associated with implementing an Erosion Control Plan (#02-454-ECPA) proposed by Rodgers Land and Development Company for a new 161-acre vineyard in Napa County. Chapter 4 of this Draft Environmental Impact Report (Draft EIR) provides a more detailed evaluation of environmental impacts. In accordance with Section 15123 of the CEQA Guidelines, this summary identifies the following: (1) each significant impact with proposed mitigation measures that would reduce or avoid significant impacts, (2) areas of controversy known to the Lead Agency including issues raised by agencies and the public, and (3) issues to be resolved including a choice among alternatives and whether or how to mitigate the significant impacts.

Napa County is responsible for review and approval of the Erosion Control Plan pursuant to Chapter 18.108 of the Napa County Code Conservation Regulations, for earthmoving activities on slopes greater than 5 percent. Due to the nature of the conservation regulations, and the discretionary review undertaken by the County, projects subject to the regulations are also subject to review under the California Environmental Quality Act (CEQA).

2.2 PROJECT UNDER REVIEW

This section provides a brief description of the proposed project. A more detailed description of the project is provided in Chapter 3: Project Description.

2.2.1 Overview

This EIR analyzes the potential environmental impacts of implementing an Erosion Control Plan (#02-454-ECPA) for earthmoving activities associated with a new vineyard in Napa County, California. The Upper Range Vineyard Project – Rodgers Property would involve installing erosion control features and measures and the subsequent operations for a new approximately 161-acre vineyard on privately owned properties. (APNs 030-200-002, 030-130-008, 030-220-009, and 030-220-027/028/029/030 (formerly 030-220-001) The new vineyard would be situated on seven contiguous parcels totaling approximately 678 acres.

The project site is located in the hills between the Silverado Trail and Lake Hennessey, about 2 miles northeast of Rutherford and 13 miles north of the City of Napa. The erosion control measures would be implemented in the proposed vineyard area, which would cover 161 acres (approximately 24 percent of the total 678 acres), while the existing site conditions would remain as is on 517 acres (approximately 76 percent of the total 678 acres). The vineyard layout was designed by the property owners to minimize the need for grading and tree removal.

A new 10,000-gallon water tank and irrigation line would be installed for the vineyard. Ground water would be pumped from an existing well and be stored in the water tank. The existing well would also be shared and provide water to the Rutherford Volunteer Fire Department facility on Silverado Trail. The Rutherford Volunteer Fire facility would have their own separate 10,000-gallon water tank that would be screened from view by existing trees.

The properties are zoned AW (Agricultural Watershed) and are currently grazed by cattle during spring and summer with some supplemental feed. Grazing has occurred on the properties since the early 1930s. The cattle are moved off the properties during the fall and winter to allow the vegetation to grow back. The grazing is mainly to keep the vegetation in check and to reduce the potential for a wildfire. Cattle will continue to graze on the non-vineyard portions of the property. Vegetation on the site includes native and non-native grasslands, chemise, California bay chaparral, pines, oaks and Douglas-fir forest.

After submitting the Erosion Control Plan Application, the applicant, Rodgers Land and Development Company, met with Napa County planners and environmental consultants to review the initial plan. The applicant revised the plan to incorporate the following actions:

- Create additional wildlife passages between vineyard blocks.
- Preserve areas with sensitive plant species.
- Preserve areas with cultural resources.
- Provide better traffic visibility and safety by redesigning and locating the main entrance 300' south of the existing main access.

These revisions are reflected in the project description in Chapter 3 of this Draft EIR.

2.2.2 Erosion Control Measures

Erosion control measures as designed in 02-454-ECPA would be installed and maintained in conjunction with vineyard operation. The purpose of the ECPA is to control the potential erosion due to water run-off and sediment run-off that could result from installation and operation of a vineyard on the currently undeveloped site, which has slopes greater than 5 percent.

Erosion control measures include drainage systems and vegetative erosion control measures, as designed in the ECPA. Drainage and surface erosion control measures would include water bars to divert concentrated flow and straw bale dikes, silt fencing, and/or rock barriers to protect the nearby watercourses. Rocks may be stacked in a row outside of setback areas to create a filter media. Vegetative erosion control measures would consist primarily of seeding and management of a no-till cover crop and straw mulch, which would be used between vine rows and disturbed areas outside the vineyard blocks.

2.2.3 Vineyard Layout

The vineyard would be comprised of 27 vineyard blocks, with the vine rows planted perpendicular to the hill slopes. Vineyard blocks would be laid out with approximately 8 feet between vine rows and 4 feet between vines. Vineyard blocks would be separated by vineyard avenues ranging from 20 to 24 feet in width. Wildlife passages ranging from 50 to 200 feet wide have also been incorporated.

2.2.4 Installation of Erosion Control Measures and the Vineyard

Installation of ECPA and the vineyard would occur between April and September, the season prior to planting, and would include clearing the existing vegetation, simultaneously ripping and tilling soil amendment (compost) into the soil to prepare for planting the temporary cover crop, laying out vine rows and installing the irrigation system, surface drainage system and erosion control measures. Although site preparation would also include grading and tree removal, the vineyard layout was designed to minimize the need for grading and tree removal.

2.2.5 Subsequent Vineyard Operation

Vineyard operation includes ongoing activities such as pruning, mowing, weed control, vine management, irrigation, fertilization, and harvest activities. Pruning would occur during the winter, generally between January and March. Vines would be pruned by hand.

The vineyard would be operated using best management practices for pest, disease, and weed control. This includes the use of integrated pest management practices that rely first on biological, cultural, and genetic methods and the use of softer pesticides as needed. These practices include applying sulfur dust, light oils, or synthetic fungicides to vines to prevent powdery mildew. Materials would be applied approximately every 7 to 14 days throughout this period for a total of 7 to 9 applications. Materials would be applied at night (between 10 PM and 5 AM), as nighttime provides cooler temperatures and less wind that could cause drift from the vine rows. These control activities would take place generally during the dry season, between March and July depending on the type of grapes and weather conditions. Weed control under the vines and between the vine rows would be achieved through the use of a low-volume chemical sprayer and mechanical controls.

The cover crop would be reseeded in subsequent years as necessary prior to the rainy season to maintain coverage at 80 percent. The cover crop, including avenues, would be predominantly mowed, but every few years, some minor tillage (2-4 inches) could be needed prior to reseeding to ensure the seed are imbedded in the soil.

Primary growth of the vine is achieved in the spring, primarily from the soil moisture stored from winter rainfall. The growth of mature grapevines is rapid in the spring and slows dramatically by June of each year. From this point on, vines would be given only enough water to maintain the leaves in an active, healthy manner. Growth of the vine after June is not desired for grape growth/ripening. Vines would be irrigated using a drip system. Typically a few (generally 2-5) gallons per week per vine would be applied to each vine's root system using the drip system. The water would rapidly infiltrate the soil with very little loss to evaporation and no runoff. Because irrigation would only be applied as needed, there could be 1 to 4 weeks between irrigation applications.

The harvest season takes place in the fall, generally during the months of September, October and November. The grapes may be harvested by hand or mechanical harvesters may be used.

2.2.6 Site Access and Transportation

Trucks and employee cars would arrive and depart via the existing access on Silverado Trail. The main entrance to the site is roughly in the middle of the proposed project site (at Vineyard Block 14) on Silverado Trail. The current entrance would be relocated approximately 375 feet south of its existing location because of the poor line of sight visibility of southbound vehicles on Silverado Trail. Most of the vineyard blocks would

be accessed from the internal road network that is connected to this main entrance. Access to Vineyard Block 10 (the northern-most block on Silverado Trail) would be through the existing adjacent vineyard entrance on Silverado Trail, about 100 yards north of Vineyard Block 10.

2.3 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

Napa County filed a Notice of Preparation (NOP) with the Governor's Office of Planning and Research on March 1, 2006. During the 30-day comment period ending March 31, 2006, written comments regarding the scope and content of the EIR were received from regulatory agencies and the public. Significant issues that were raised during the public outreach process are listed below.

This list represents substantive environmental issues raised by commenters. All of the comments gathered during the scoping period were considered in developing this EIR. In particular, issues that raised significant environmental impact concerns are addressed in Chapter 4 of this document.

2.3.1 Biological Resources

The Project site supports terrestrial and aquatic habitats for plant and wildlife species. Some commenters suggested that design and layout of the vineyard should avoid sensitive plant and wildlife habitat, avoid removing trees, avoid stream setback areas, avoid disturbing wildlife corridors and enhance remaining habitat as much as possible.

2.3.2 Geology and Soils

The agricultural activities proposed for the Project site, including the continuation of cattle grazing on the property, have the potential for soil loss and soil erosion. The proposed erosion control measures may or may not be capable of sufficiently controlling the erosion and resulting soil loss.

2.3.3 Hydrology and Water Quality

The agricultural activities proposed for the Project site could create changes in drainage patterns and could also degrade water quality due to sediment loss and the use of pesticides, all of which could affect the water quality of groundwater, Lake Hennessey and Milliken Reservoirs, Conn Creek and the Napa River.

2.4 SIGNIFICANT ENVIRONMENTAL IMPACTS

According to the *State CEQA Guidelines*, a “significant effect on the environment” means a substantial, or potentially substantial adverse change 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 (Section 15382). In determining whether or not the Project has the potential to result in a significant impact to the environment, the County employed “thresholds of significance” derived from the CEQA Environmental Checklist Form (Appendix G of the *State CEQA Guidelines*) as well as other policy guidance provided by Napa County and other regulatory agencies. These thresholds are provided within each topical section in Chapter 4 of this Draft EIR prior to the environmental evaluation.

Implementation of the Project has the potential to generate environmental impacts. Impacts related to the following environmental topics could be significant without the implementation of mitigation measures, but would be reduced to a less-than-significant level should the mitigation measures identified in Chapter 4 be implemented.

- **Biological Resources:** Potentially significant impacts to raptor species habitat
- **Cultural Resources:** Potentially significant impacts to known pre-historic and previously undocumented historic and pre-historic cultural resources.
- **Geology and Soils:** All potential geology and soils impacts would be less than significant.
- **Hydrology and Water Quality:** Potentially significant impacts to flooding

2.5 UNAVOIDABLE SIGNIFICANT EFFECTS

The *State CEQA Guidelines* Section 15126(b) requires an EIR to “describe any significant impacts, including those that can be mitigated but not reduced to a level of insignificance.” The Project would not generate any unavoidable significant impacts. As described in Chapter 4, all potentially significant impacts can be mitigated to a less-than-significant level by incorporating the identified mitigation measures.

2.6 ALTERNATIVES TO THE PROJECT

The alternatives analysis describes a range of reasonable alternatives to the Project that could feasibly attain most of the basic objectives of the Project, while avoiding or substantially lessening any significant impacts, and evaluates the comparative merits of the alternatives (*State CEQA Guidelines* Section 15126(a)). Alternatives that avoid or

substantially reduce significant impacts are considered, even if these alternatives would impede to some degree the attainment of Project objectives, or would be more costly (*State CEQA Guidelines* Section 15126.6(b)).

The following alternatives are considered in Chapter 6 of this Draft EIR:

- The No Project Alternative, which assumes the continuation of existing conditions on the Project site.
- The Resource Conservation Alternative, which would reduce the size of Vineyard Block 14 by about half, and eliminate Vineyard Block 52, preserving native grasses that exist in these areas.

CEQA requires the identification of an environmentally superior alternative. Based on the information contained in Chapter 6, and in accordance with CEQA, the Resource Conservation Alternative would be the environmentally superior alternative because it would reduce impacts to biological resources, as well as geology and hydrology impacts, when compared to the proposed Project.

2.7 SUMMARY TABLE

Table 2-1 compares the significant and less-than-significant environmental impacts of the Project and makes relative comparisons to the alternatives. Impacts are numbered in accordance with their numbering in Chapter 4. Please see Chapter 4 for more information on the potential impacts of the Project.

The following symbols are used to indicate the relative impact of the alternative as compared to the Project.

- < Impact less than Project
- = Impact similar to Project
- > Impact greater than Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
BIOLOGICAL RESOURCES			
<p>Impact 4.1-1: Oak Woodlands (Less than Significant)</p> <p>The proposed project would remove approximately 121 acres of mixed oak woodland (roughly one third of the properties' oak woodlands), and approximately 296 acres of oak woodlands would remain intact. The vineyard blocks are arranged so that large contiguous stands of oaks would not be removed (Figure 4.1-1). The most extensive oak woodland removal would occur among four vineyard blocks: Block 34 (nearly 32 acres), block 41 (just over 13 acres) and blocks 25 and 27 which are contiguous (a combined total removal of 21 acres). While implementation of the project would result in a large amount of oak woodland removal, it would not be considered a significant impact because CEQA section 21083.4(d)(3) specifically exempts the conversion of oak woodlands for agricultural purposes from the significance determination and mitigation requirements.</p> <p>Mitigation Measures: None required.</p>	LTS	<	<
<p>Impact 4.1-2: Spread of Sudden Oak Death (Less than Significant)</p> <p>Surveys for SOD were not conducted on the site. It is not known if SOD occurs within ¼ mile of the area. However, SOD may occur within the area. The potential for a significant impact exists if infested plants are removed or trimmed during construction and the parts are transported to a non-infested county or state. Leaving materials on-site (without burning them), or moving them only within the 13-county infested area, are actions that do not violate state or federal regulations, and would not constitute a significant impact. However, if movement of plant materials outside the 13-county infested area is expected then the impacts would be significant and mitigation required.</p> <p>If plant materials are to be transported to a non-infested county or state, the project proponent shall comply with all applicable laws and regulations during the performance of vegetation trimming, clearing, and removal activities. Significant impacts associated with the spread of the SOD pathogen would be avoided by complying with applicable laws and regulations.</p> <p>Mitigation Measures: None required.</p>	LTS	<	<
<p>Impact 4.1-3: Sensitive Habitats (Less than Significant)</p> <p>Setbacks of 65-feet and silt barriers designed to buffer impacts to jurisdictional waters from the proposed project are present on several watercourses and specifically avoid areas adjacent to Vineyard Blocks 14, 31, 34, and 52. The proposed project is therefore not anticipated to disturb the Brewer's willow/riparian habitats in the project area, and would not result in direct or indirect impacts to this habitat. Additionally, as indicated in Sections 4.3 (Geology) and 4.4 (Hydrology), erosion and sediment transport would be reduced relative to existing conditions as result of measures</p>	LTS	<	<

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>contained in the ECPA. The project would, however, result in the disturbance of Native Perennial Grassland Association (native grassland) and Serpentine Grassland Super Alliance (serpentine grassland).</p> <p>Approximately 0.26 acres of native grassland mapped within and adjacent to the proposed project, specifically near Vineyard Block 14, would be disturbed as a result of this project. Purple needlegrass is not an uncommon, low-cover component within oak woodlands and rock outcrops; however, it is less common to find a large stand. Although it is preferable to avoid this increasingly rare habitat, the native grassland on the project site has been substantially degraded from cattle grazing and is of poor quality. The almost 0.60 of an acre of this grassland not directly affected by the proposed project (Figure 4.1-1) could continue to be degraded if grazing continues at the same levels after implementation of the proposed project (farming, including grazing, is a right and could continue in the future with or without the proposed project and does not require any special approvals by the County of Napa). The removal of 0.26 acres of native grassland is not considered a significant impact because there are no specific protections for native grassland and the loss of native grassland would not substantially affect the local or regional distribution of this habitat.</p> <p>The proposed project would disturb 1.37 acres of serpentine grassland. The serpentine grassland that would be disturbed is currently fragmented by an existing road and is of low quality. The remaining 7.10 acres of serpentine grassland would not be fragmented as a result of the proposed project. While the project would disturb 1.37 acres of serpentine grassland, this impact is not considered significant because there are no formal protections to this species, there are no special-status species within the habitat, and because the majority of the habitat would be avoided.</p> <p>Mitigation Measures: None required.</p>			
<p>Impact 4.1-4: California Red-legged Frog (Less than Significant)</p> <p>Two stock ponds on the project site are considered low-quality potential habitat for the CLRF because the ponds exhibit low-quality breeding conditions and lack emergent vegetation and refuge from predation. The northwest pond supports a breeding population of predatory bullfrogs, and no frogs or amphibian species were observed in the southeast pond. Additionally, seasonal drainages associated with the ponds flow for relatively brief periods of time during and shortly after rain events, and consequently do not support favorable conditions for the CRLF. The large eastern drainage that feeds into Lake Hennessey was also examined for potential amphibian habitat. This drainage is poor quality habitat for the CRLF due to the relative lack of emergent vegetation, sunny locales, and evident perennial flows. Although the drainage had a few seep areas that may provide year round water, there was no emergent vegetation or suitable habitat.</p> <p>Mitigation Measures: None required</p>	LTS	<	=

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>Impact 4.1-5: Coast Range Newt (Less than Significant)</p> <p>The coast range newt would not be substantially affected by the proposed project, as project activity would not occur in the riparian habitat in which they reside. Indirect impacts, could result from increased sediment loads and pesticide use; however, the Erosion Control Plan (#02-454-ECPA) and proposed 65-foot setbacks from watercourses would reduce potential impacts to a less-than-significant level. The ECPA proposes the installation of water bars to divert runoff away from sensitive areas, straw bales and silt fences during construction to filter runoff and protect waterways, permanent no-till cover crops within vineyard blocks to filter and reduce runoff, and rock barriers to further attenuate the effects of runoff and filter potential sedimentation. As indicated in Sections 4.3 (Geology) and 4.4 (Hydrology), these measures would decrease post-project erosion and sediment transport relative to pre-construction conditions, and peak discharges for the 2-, 5-, 10-, 25-, 50-, and 100-year storm event in the Lake Hennessey gulch, where the coast range newt is known to exist, would remain unchanged.</p> <p>The applicant can be expected to apply regulated pesticides and herbicides, which are commonly used in Napa County. If used according to the manufacturer’s instructions, these applications would not result in substantial water quality impacts.</p> <p>Mitigation Measures: None required.</p>	LTS	<	=
<p>Impact 4.1-6: White-tailed Kite, Sharp-shinned Hawk, Bald Eagle, and Other Raptor Species (Significant)</p> <p>Construction activity related to ECPA installation and follow-up planting of the vineyard has the potential to cause both direct (through removal of nest trees) and indirect impacts (from noise and human activity), which could lead to decreased nest success or nest failure/abandonment in trees adjacent to installation activity. These impacts would constitute a significant impact. Construction and installation activities as a result of the ECPA would have the potential to significantly affect sharp-shinned hawk, white-tailed kite, bald eagle, and other raptor species (sharp-shinned hawk, white-tailed kite, and bald eagle were the only raptors observed on site).</p> <p>Foraging and likely nesting habitat for the white-tailed kite and the sharp-shinned hawk exists within the proposed project area. Nests of these species were not located during surveys and are not known to exist within the proposed project area. However, both species were observed during the 2004 surveys, indicating that further surveys could reveal their presence. Surrounding properties include open grassland and oak forest habitats that would still provide potential foraging and nesting habitat for many raptor species, and planted vineyards may also provide potential foraging habitat. As a result, impacts to foraging habitat would not be considered significant.</p> <p>Construction impacts associated with the project would not substantially affect the bald eagle over-wintering habitat at the north and south ends of Lake Hennessey. The remaining habitat on the project site and adjacent lands, and habitat</p>	LTS w/ M	<	<

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>around Lake Hennessey itself, would provide sufficient foraging and roosting habitat. Therefore, significant impacts to over-wintering, foraging, or roosting habit are not anticipated, but it is possible that the project site could support a bald eagle. Disturbance of an active bald eagle nest would be considered a significant impact.</p> <p>Mitigation Measure 4.1-6: If ground disturbing activities occur within the breeding season of nesting raptors (February 1 to August 31), focused surveys shall be conducted to determine whether nesting occurs within the area. Surveys shall be conducted by a qualified biologist with knowledge of the nesting behavior of birds, and shall include all areas that are within 500 feet of any earthmoving activities. A survey shall be conducted each year in which activity would occur during the nesting season and within 14 days prior to the beginning of construction or vegetation removal in an area in which project activity is not currently underway. If an occupied nest is found, no activities shall occur within 500 feet of the occupied nest until the young have fledged and left the nest. CDFG guidelines recommend implementation of 500-foot buffers, but the size of the buffer may be adjusted if a qualified biologist determines it would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist may be required if the activity has potential to adversely affect the nest. If no active nests are found or construction activities are initiated and completed outside of the raptor nesting season, no further mitigation shall be required. Following these mitigation measures, the impacts to these species would be reduced to less than significant.</p>			
<p>Impact 4.1-7: Fisheries (Less than Significant)</p> <p>Although the project area does not have adequate water to support fisheries on project site, the site is situated above Lake Hennessey which is considered substantial fishery habitat by CDFG and Napa County. Additionally, the drainages on the west side of the properties drain to the Napa River, which is designated as impaired due to pathogens, nutrients, and sediment, but also contains habitat that supports the federally threatened Central California Coast Steelhead. Although the proposed project would not directly affect fisheries, potential sedimentation from earthmoving activities and pesticide use could indirectly affect fisheries. As stated above in Impact 4.1-5, Coast Range Newt, the proper installation and maintenance of erosion control measures proposed in the ECPA and prudent use of pesticides expected from the integrated pest management (IPM) program designed for vineyards, this impact would reduce this impact to less-than-significant. These measures are further described in Section 4.3 (Geology) and Section 4.4 (Hydrology).</p> <p>Mitigation Measures: None required.</p>	LTS	<	<

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>Impact: 4.1-8: Other Special-status Species with Potential to Occur on the Project Site (Less than Significant)</p> <p>Thirteen special status (all CNPS 1B) plants and three special status wildlife species were identified to have a medium to high potential to exist on the property. None of the species are federally or state listed as threatened or endangered species.</p> <p>Although none of these plants were observed during 2004 special-status plant surveys by EDAW biologists, suitable habitat for these plants could exist on the property. Of these species, Napa western flax was located on the property in 2002 (Kjeldsen 2002), but during 2004 surveys, EDAW biologists did not locate any of these plants. However, rough terrain, a thick shrub layer, and a limited amount of time spent searching for the species, likely prevented any sighting of it during surveying activities. Additional species with a medium to high potential for occurrence included Franciscan onion, Sonoma manzanita, big-scale balsamroot, narrow-leaved daisy, Tiburon buckwheat, two-carpellate western flax, Colusa layia, Marin County navarretia, and green jewel-flower. These species are associated with serpentinite outcrops and chaparral habitat, which is located to the east of the drainage containing the Brewers Willow Alliance and at the bottom of the Chamise habitat on the southeast side of the property. Both of these areas would be completely avoided by development (Figure 4.1).</p> <p>Wildlife species include Cooper's hawk, loggerhead shrike, and pallid bat. None of these species were observed on site, but there is potential for them to occur. The Cooper's hawk occurs in riparian and coast live oak woodlands as well as other habitats near water. The loggerhead shrike occurs in grassy, savannah, and woodland habitat, and the pallid bat occurs in open dry areas with rocky areas for roosting. The proposed project has the potential to reduce some of these habitats. However, a substantial portion of the property (517 acres) would remain undisturbed, and would continue to provide nesting and foraging habitat. Therefore, this project would not significantly impact this species.</p> <p>Additionally, a small number of elderberry shrubs were observed in one area of the project site. However, the project site is outside the documented range of the valley elderberry longhorn beetle, and habitat quality is considered unsuitable.</p> <p>Mitigation Measures: None required</p>	LTS	<	<
<p>Impact 4.1-9: Loss and Degradation of Jurisdictional Wetlands and Waters (Less than Significant)</p> <p>The proposed project would modify and possibly degrade a small number of ephemeral drainages on the site, primarily from earth-moving activity such as grading and contouring. This activity has the potential to generate sediment that could move downstream and impact aquatic features subject to federal and/or state jurisdiction. An Erosion and Sedimentation Assessment (Appendix B) delineated and analyzed water catchments and drainage features across the</p>	LTS	<	<

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>project area and found no evidence of wetlands. As a result, no formal wetland delineation was conducted. While it is unlikely that jurisdictional features would be located within the project area, consultation with USACE, RWQCB, and CDFG has not occurred regarding their jurisdiction over these drainages. Consultation with these agencies may be required as part of the permitting process.</p> <p>Drainages affected by the project support surface water for relatively brief periods of time during and shortly after rain events. Generally, these streams contain cobble and boulder in the bed and lack defined banks and hydrophytic vegetation. Other streams are less defined and flow through shallow valleys and swales located in annual grassland and oak woodland habitats. These drainages do not provide significant benefits as aquatic habitat and function more like terrestrial environments during most of the year. However, during the wet season they could provide limited aquatic habitat and could act as migratory corridors for amphibians and other species. Larger drainages with defined bed and bank are primarily found in the lower watersheds and would either be avoided, are not located in areas proposed for vineyard development, or would have 65-foot stream setbacks implemented.</p> <p>While both major drainages on the west-facing side of the property are not connected to Conn Creek, the largest drainage on the east side and a couple smaller drainages on both sides are connected (Appendix B). Conn Creek, which is located below Conn Dam, flows adjacent to the project site and is a major tributary of the Napa River. Beneficial uses of Conn Creek, as defined by the RWQCB, include cold freshwater habitat, freshwater replenishment, fish migration, municipal and domestic supply, fish spawning, and wildlife habitat (SFRWQCB 1995). The RWQCB could require mitigation if it determines that the proposed project would affect these beneficial uses.</p> <p>Measures taken to reduce these potential impacts are outlined in the ECPA, which is designed to control the potential for erosion related to water and sediment run-off, and changes in the hydrologic regime that could result from the installation and operation of a vineyard on the currently undeveloped site. As stated in Section 3.3.1, the ECPA requires the installation of water bars to divert runoff away from sensitive areas, straw bales and silt fences during construction to filter runoff and protect waterways, permanent no-till cover crops within vineyard blocks to filter and reduce runoff, and rock barriers to further attenuate the effects of runoff and filter potential sedimentation. Rock barriers would be placed in strategic locations in some small drainages, such as at the bottom of drainages and swales, and rocks may be stacked in rows outside of setback areas to create additional filter and buffer media. Three small ephemeral drainages, located in Vineyard Blocks 10 and 34, would be rock lined in certain sections to protect and stabilize their drainage features (see Figure 3.2 in Section 3.3.1). Additionally, vineyard block development would not occur in areas where the average slope is greater than 30%.</p> <p>As stated above, the drainages affected by this project flow for relatively brief periods of time and provide only limited benefits as aquatic habitat, and larger drainages with defined bed and bank would either be avoided or would have at</p>			

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>least 65-foot stream setbacks implemented. Downstream sedimentation is not expected to substantially increase. In fact, the Erosion and Sediment Assessment (Appendix B) concludes that following the installation of the ECPA and planting of the vineyard, sediment yield from the vineyard into the creeks and downstream from the project site would be less than under existing conditions.</p> <p>Mitigation Measures: None required.</p>			
CULTURAL RESOURCES			
<p>Impact 4.2-1: Historic Ranch Complexes (Less than Significant)</p> <p>Some of the proposed vineyard blocks have the potential to impact the historic ranch complexes (RUR-3, RUR-6, and RUR-TO-3). Site RUR-3 has numerous features, including two groupings of structural remains with retaining walls, historic refuse, and well, a small pit, and stone fence segments, but was determined to not be eligible for listing on the California Register of Historic Resources (CRHR) per CEQA.¹ RUR-6 also has the remains of structures including a stone root cellar, which probably represents the remains of a dwelling, an additional small stone foundation, historic material scatter, retaining walls, stone fences, and stone alignments. This site is not considered eligible for listing on the CRHR. Site RUR-TO-3, which is not considered eligible for CRHR listing, consists of a stone-lined, raised building platform, and a dense scatter of historic refuse.</p> <p>The style and method of construction for these historic features are not unique, and when viewed individually, are ubiquitous in the region. However, collectively these sites may represent a unique and undocumented 19th to early 20th century cultural adaptation to the poorer farming and ranching conditions of the Napa region ridgetops and slopes. Avoidance and preservation is possible for some of the historic resource sites, as the planned vineyard blocks do not presently impact their integrity or can be slightly altered to avoid the sites altogether. As presently proposed, the vineyard block layout would avoid resources RUR-3, RUR-6 and RUR-TO-3.</p> <p>Impacts to RUR-6 and associated sites were investigated further by EDAW (2005). No documentation was found to substantiate an exact construction date for the house and ancillary remains that constitute the RUR-6 site and the other sites in the immediate vicinity. However, an 1890 homestead record does reference a dwelling and appurtenances on the property (Homestead Record of John Dent). A.F. and Charlotte Chandler owned the land from 1871-1878, prior to a homestead being filed by John Dent (Napa County Deed Records). Using those dates for reference, it can be concluded that the historic-era structural remains on the property date from between 1871 and 1890. Based on the surface evidence at the site, in the form of foundations, a cellar hole, and various domestic artifacts, the site of RUR-6</p>	LTS	<	<

¹ Brian Ludwig, EDAW Archaeologist, personal communication, October 25, 2006.

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>likely represents the remains of the homestead established by Dent. Other sites and features in the area more than likely represent the remains of associated agricultural/ranching features and buildings roughly contemporaneous with the homestead.</p> <p>Research suggests that the property functioned primarily over the years as a home-site for various individuals and their families, and as pasturage for cattle. Research did not indicate that the property was associated with any individual(s) important in local history (Criterion 2). Neither does the property retain or embody distinctive characteristics in terms of architectural style, materials, or workmanship (Criterion 3).</p> <p>In terms of Criterion 1, the highest potential for eligibility is the association of the property with early ranching in the Napa Valley. This potential eligibility suffers, however, from two shortcomings: a lack of thorough documentation and a loss of integrity.</p> <p>Assessment of archaeological values associated with the RUR-6 site and the nearby features, required for eligibility under Criterion 4, was beyond the scope of this study. However, the preliminary indication is that the property was but one of many homesteads established in the Napa Valley during the late 19th century. As research demonstrated, the hilltops in Napa were often used for pasturage, as was the case with the Rodger's property. No archival information was found to indicate that the resources on the property would add previously undocumented or important information to the existing body of knowledge.</p> <p>The three documented historic-era ranch or farm sites (RUR-3, RUR-6, and RUR-TO-3) all exhibit building and structure remains and scatters or deposits of historic-period refuse. There are no standing structures on any of these sites and none of these complexes retain physical integrity relevant to their potential periods of significance. In addition, archival research has demonstrated that none of these ranching or farm complexes were associated with any historically significant persons or events. Consequently, sites RUR-3, RUR-6 and RUR-TO-3 are not eligible for listing on the CRHR, no significant impacts would occur and no mitigation is necessary.</p> <p>Mitigation Measures: None required.</p>			
<p>Impact 4.2-2: Prehistoric Sites (Potentially Significant)</p> <p>Two prehistoric sites were documented by Origer and Thompson (2001) as potentially significant. However, only one (CA-Nap-151) appears potentially significant based on surface and initial subsurface investigations. Although a portion of the site has been covered over by a relatively recently bulldozed building pad, some possible midden deposits were noted along with flaked stone artifacts. This suggests that important stratified subsurface cultural deposits could be present at this site. Grading of the building pad appears to not be a recent occurrence. It is not known why the site was graded, or what occupied the building pad. Prehistoric site RUR-5 appears to be a sparse surface scatter of lithic (stone</p>	LTS w/ M	<	<

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>tool) artifacts that will not require additional field investigation.</p> <p>As currently planned, the vineyard blocks would not impact the location of prehistoric site RUR-5, and no impacts are anticipated. Two vineyard blocks are proposed along side CA-Nap-151, and therefore could be impacted by project-related ground disturbing activities.</p> <p>Mitigation Measure 4.2-2: In order to ensure that prehistoric sites RUR-5 and Ca-Nap-151 are not impacted by the proposed project, the boundaries of these sites as noted in recent GPS mapping shall be clearly marked prior to project related ground disturbing activities. This shall be done by a qualified archeologist approved by the County. These areas shall be avoided during project implementation</p>			
<p>Impact 4.2-3: Disturbances to Undocumented Cultural Resources (Potentially Significant)</p> <p>Although documentary and field investigations have identified a number of prehistoric and historic era cultural resources within the project area, there is always the possibility that unrecorded resources or those presently in subsurface contexts could be encountered during project construction. Impacts to such resources could be significant and require mitigation in order to reduce them to less-than-significant levels.</p> <p>Mitigation Measure 4.2-3a: If unrecorded cultural resources are encountered during project-related ground-disturbing activities, a qualified cultural resources specialist shall be contacted to assess the potential significance of the find.</p> <p>If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, bottle glass, ceramics, structure/building remains, etc.) is made during project-related construction activities, ground disturbances in the area of the find will be halted and a qualified professional archaeologist will be notified regarding the discovery. The archaeologist shall determine whether the resource is potentially significant as per the CRHR and develop an appropriate program of site investigation and recovery.</p> <p>Mitigation Measure 4.2.3b: Stop Potentially Damaging Work if Human Remains Are Uncovered During Construction, Assess the Significance of the Find, and Pursue Appropriate Management.</p> <p>California law recognizes the need to protect Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. The procedures for the treatment of Native American human remains are contained in California Health and Safety Code §7050.5 and §7052 and California Public Resources Code §5097.</p> <p>In accordance with the California Health and Safety Code, if human remains are uncovered during ground disturbances, the contractor and/or the project proponent shall immediately halt potentially damaging excavation in the area of the burial and notify the Napa County Coroner and a professional archaeologist. The California Health and</p>	LTS w/ M	<	<

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>Safety Code requires that if human remains are found in any location other than a dedicated cemetery, excavation is to be halted in the immediate area, and the county coroner is to be notified to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]).</p> <p>If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). Following the coroner's findings, the archaeologist, the NAHC-designated Most Likely Descendent (MLD), and the archaeologist shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities of the Agency for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code Section 5097.9.</p>			
GEOLOGY AND SOILS			
<p>Impact 4.3-1: Erosion (Less than Significant)</p> <p>Installation of the erosion control measures (#02-454-ECPA) and subsequent vineyard would have the potential to cause erosion on the project site through the use of farm equipment, including tractors, trenchers, and backhoes. Farm equipment would remove trees and large shrubs, rip and till the other existing vegetation into the soil, establish vineyard blocks/rows, and install a surface drainage system followed by the drip irrigation and trellis systems. Planting of the grape stock would occur the following season. The vineyard layout was designed to minimize as much as possible the need for tree removal. During construction/installation, disturbed soils would be exposed to the erosive forces of wind and rain.</p> <p>Erosion control measures as designed in the Erosion Control Plan (#02-454-ECPA) would prevent on-site and downstream drainages and watercourses from significant adverse impacts associated with erosion and sedimentation from project installation and the subsequent vineyard operation. As required by the County's Conservation Regulations (18.108), installation of the project would occur during April 1 to October 15 of any year or the dry season, at which time rain events that could cause significant surface runoff and erosion would not be expected to occur. A temporary cover crop would be planted with a straw mulch overlay after smoothing the field, and is required to be in place by September 15th of the year of installation (for any area located in a sensitive domestic water supply drainage - in this case Lake Hennessey Gulch Drainage), which would further minimize erosion during the rainy season by about 54% on average as compared to current conditions (Trso 2006). In addition, areas within vineyard blocks with average slopes greater than 35 percent would not be affected by the vineyard installation. Following installation of the erosion control measures and subsequent planting of the vineyard, including the permanent cover crop, the sediment supply from the vineyard</p>	LTS	>	<

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>into the creeks and downstream from the project site would be less than under existing conditions (see Impact 4.3-3 discussion). The project would be in conformance with applicable policies in the Conservation and Open Space Element of the Napa County General Plan.</p> <p>Mitigation Measure: None required.</p>			
<p>Impact 4.3-2: Seismicity (Less than Significant)</p> <p>Seismic and geologic hazards on the project site are limited to slope instability and ground shaking. Workers on the project site during installation and subsequent vineyard operations (including harvest) could be exposed to seismic shaking and potential slope failure during a major earthquake. The project is in conformance with applicable policies for agricultural land uses in the Safety Element of the Napa County General Plan. While ground shaking could occur, the risk to workers would be negligible.</p> <p>According to SHALSTAB, a model for mapping shallow landslide potential (Montgomery and Dietrich 1994, Dietrich and Montgomery 1998), the property is only weakly-to-moderately susceptible to shallow landslide, and the project site is generally unconditionally stable. Therefore, the probability for intensive ground shaking to cause landsliding during an earthquake would be low. The impact would be less than significant.</p> <p>Mitigation Measure: None required.</p>	LTS	<	=
<p>Impact 4.3-3: Sediment Transport (Less than Significant)</p> <p>Replacement of the existing grassland and oak woodland with the subsequent vineyard would introduce new vegetation and planting patterns, in combination with the erosion control measures. Future conditions reflecting natural geologic processes, the effects of past and on-going land uses, and effects of project implementation were modeled to quantify potential erosion and soil loss following installation of the ECPA and subsequent planting of the vineyard.</p> <p>According to the USLE calculations performed (Trso 2006) on the 27 proposed vineyard blocks, 341.1 T of sediment would be produced annually (T/yr) under the project conditions (a reduction of 404.8 T/yr). These results indicate a reduction in surface erosion ranging between 44% and 85% within the individual vineyard blocks, with an average hillslope surface erosion reduction of 54.3%. This decrease in surface erosion is primarily a result of the increased ground surface cover due to cover crop established as part of the project. Under the project conditions, ground surface cover would increase from the existing 60% (or 50% in places of intense grazing) to 80% in the proposed vineyard blocks. In addition, the reduction in hillslope surface erosion would be achieved by building vineyard avenues around the proposed vineyard blocks, which would result in subsequent shortening of hillslope lengths within the blocks. It is assumed that due to continued cattle grazing on the property, current levels of surface erosion in areas outside of the</p>	LTS	>	=

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>proposed vineyard blocks would remain unchanged.</p> <p>The amount of sediment delivered to on-site watercourses would also decrease under project conditions. Under existing conditions, approximately 103.5 T/yr of sediment produced within the area proposed for vineyard blocks is estimated to be delivered to on-site watercourses. Approximately 38.4 T/yr of sediment produced is estimated to be delivered (a reduction of 65.2 T/yr) to on-site watercourses under project conditions.</p> <p>When looking at specific drainages within the project site, there would be a reduction in the total drainage sediment supply ranging from 2 to 13.1 % (assuming grazing would continue along with vineyard development (see Table 4.3-1). The reduction in sediment supply (as compared to current conditions) reflects the sediment trapping capacities of the proposed erosion control measures in combination with the cover-crop-related decrease in sediment production. These results assume that erosion control measures are maintained frequently and functioning properly as part of subsequent routine vineyard maintenance.</p> <p>Mitigation Measure: None required.</p>			
HYDROLOGY			
<p>Impact 4.4-1: Water Quality (Less than Significant)</p> <p>Installation of the ECPA and subsequent planting of the vineyard could introduce pollutants into the water that would violate water quality standards or discharge requirements. The two primary surface waters hydrologically connected to the project site, Conn Creek and Lake Hennessey, drain directly into the Napa River, the San Francisco Bay Estuary, and the Pacific Ocean. Any installation related impacts to local surface waters would also affect the regional watersheds. Installation of the ECPA and subsequent vineyard planting has the potential to cause erosion on the property. The use of heavy machinery, including grading vehicles, tractors and plows, would disturb soils, exposing them to the erosive forces of rain and wind. Furthermore, chemical spills associated with operation and maintenance of heavy machinery could potentially occur during ECPA installation and could be conveyed through groundwater or surface water to nearby streams.</p> <p>The project would incorporate several measures to minimize the potential for erosion and transport of pollutants during ECPA installation and subsequent vineyard planting activities. For example, the proposed vineyard area to be developed is in areas with average slopes not greater than 30%. Water bars would be constructed along roads in the vineyard to divert concentrated flow off of vineyard avenues. Straw bale dikes would also be used on the two watercourses between the last vineyard block and the blue-line streams. A permanent no-till cover crop would be used on all vineyard blocks and avenues and all areas would be seeded prior to September 1st to minimize the likelihood of rainfall generated runoff. Further, the ECPA incorporates stream setbacks between proposed vineyard blocks and</p>	LTS	<	<

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>streams. Following installation of the ECPA and planting of the vineyard, the sediment yield from the vineyard into the creeks and downstream from the project site would be less than under existing conditions (Appendix B).</p> <p>In assessing these regulations as they pertain to the proposed project, the regulatory issues can be consolidated and synthesized into the following question: Will the proposed project runoff increase the temperature, the toxicity, or the total suspended sediment load to Conn Creek or Lake Hennessey? Due to the clearing of trees for the vineyard blocks, there exists a potential for elevated runoff temperatures to Lake Hennessey or Conn Creek. Trees provide shade to the runoff surfaces and ephemeral streams flowing from the property. Because the streams are ephemeral, runoff would occur only during the rainy season, which is typified by cool, cloudy weather. It is unlikely that the project would contribute to a significant temperature increase in Conn Creek or Lake Hennessey.</p> <p>If the proposed project were to contribute to the toxicity in Conn Creek, Lake Hennessey, or the Napa River, it is likely to occur as a result of adsorption of pollutants onto clay particles which are carried through the streams on the suspended sediment, or as direct runoff from the project to the receiving body. Very little published water quality data exists on runoff from existing vineyards. To provide for a better understanding of what contaminants may be in the runoff from the project site, runoff from similar vineyards in the vicinity of the Rodger Project were analyzed. Samples were collected near the end of the 2004 rainy season. Three sites were sampled. The location of each site is shown in Figure 4.4-2. Each site is downstream of vineyard areas located on hillslopes similar to those found throughout the project area. The collected samples were analyzed for the following 6 parameters: Organochlorine Pesticides, Organophosphorus Pesticides, Chlorinated Herbicides, SVOC/Semi-Volatile Organic Compounds, Copper, and Sulfate. The first 4 parameters actually consist of a suite of analytes.</p> <p>The samples were analyzed for a total of 125 different pollutants, 19 Organochlorine Pesticides, 28 Organophosphorus Pesticides, 10 Chlorinated Herbicides, 68 Semi-Volatile Organic Compounds, Copper, and Sulphate. From the results of the testing, only 2 contaminants were found to exist in the runoff. Those contaminants are tabulated below.</p> <p>The RWQCB has not set surface water quality objectives for either of the identified pollutants. Pollutants discharged into Lake Hennessey can potentially contribute to drinking water quality degradation for the City of Napa. In order to evaluate the potential for water quality degradation the SFRWQCB's water quality objectives for municipal water supply was consulted. The sulfate concentration found on all three sites is well below the 250 mg/L listed as an objective for municipal water supply, while 2,4-DB or Butanoic acid is not a listed parameter.</p> <p>The applicant can be expected to apply regulated pesticides and herbicides, which are commonly used in Napa County. If used according to the manufacturer's instructions, these applications would not result in substantial water quality impacts. In addition, there is a predicted decrease in sediment delivery from the site.</p>			

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>The details describing each analyte along with the complete water quality analysis report are provided in Appendix C.</p> <p>Mitigation Measures: None required.</p>			
<p>Impact 4.4-2. Construction Water Quality (Less than Significant)</p> <p>Converting grassland and oak woodlands to operational vineyards could potentially degrade water quality, on-site and within downstream receiving water bodies, by significantly increasing the suspended sediment load and/or contributing other pollutants to the natural waterways.</p> <p>Alteration of existing drainage patterns can significantly alter the sediment transport and floodplains within a watershed. In order to assess the potential impact on drainage patterns and erosion on site, a geology and soils analysis was prepared by Martin Trso, R.G. in 2006 (Appendix B). The results of this geomorphology study indicate that sediment yield from the site would be reduced under project conditions and that the ECP is sufficient. (see Section 4.3 Geology and Soils for additional information).</p> <p>Mitigation Measures: None required.</p>	LTS	<	<
<p>Impact 4.4-3: Groundwater Recharge and Consumption (Less than Significant)</p> <p>Post ECPA installation, subsequent vineyard irrigation activities would not deplete groundwater supplies or interfere substantially with ground water recharge such that there would be a net deficit in aquifer volume or a substantial lowering of the local groundwater table. Annual groundwater consumption for the vineyard would be less than the annual recharge from the project site. The vineyard irrigation system would utilize water as efficiently as possible to minimize use of local groundwater resources through use of a drip irrigation system.</p> <p>Well withdrawals for agricultural use could contribute to the depletion of aquifer volume and the lowering of groundwater tables. This could impact production from permitted wells in the area. In order to evaluate the significance of groundwater consumption, HSI assessed groundwater recharge as compared to consumptive water use rates (Appendix C). For CEQA purposes, the long-term average natural rainfall recharge rate of the groundwater body in question should be greater than or equal to the estimated consumptive water use rate.</p> <p>The annual groundwater recharge rate was estimated using the annual water budget method. In this method, mean annual runoff and mean annual evapotranspiration were subtracted from mean annual precipitation to estimate the total amount of incident annual precipitation that is available for annual recharge. Given that the total acreage for the Upper Range is 678 acres, the total annual recharge is equal to 305 acre feet per year (ac-ft/yr).</p> <p>In order to assess potential impact on groundwater recharge and production rate on nearby wells, HSI also performed a groundwater consumption analysis. A groundwater pump test was conducted at the project site. This test followed the</p>	LTS	<	<

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>protocol of the Napa County's "Phase II Water Availability Test". This test required that the proposed well be pumped at the proposed rate of the project, while simultaneously monitoring the water level in other wells adjacent to the project site. The monitoring of these adjacent wells showed that the pumped well had a minor effect on the water level in the adjacent wells. The pumped well showed a 230-foot drop during the pump test while the adjacent property owners well showed a 1.5 foot drop.</p> <p>Mitigation Measures: None Required.</p>			
<p>Impact 4.4-4: Flooding (Potentially Significant)</p> <p>Installation of the ECPA and subsequent planting of the vineyard would alter the existing drainage pattern on the project site such that flooding would occur. Installation of the ECPA would result in an increase in volume and peak discharge in the Rodgers Southeast Gulch and the Sage Canyon Road Gulch Catchments.</p> <p>The conversion to a vineyard would affect the site's runoff characteristics by changing the ground cover from that of the existing grassland/oak woodland habitats to row crops. To help control runoff and erosion, the spaces between the vineyard rows would be planted with a permanent ground cover. Despite this inter-row planting, it would be expected that runoff characteristics on-site would change.</p> <p>A WinTR-55 hydrologic model was used to evaluate volume and peak discharge for the project site. Table 4.4-3 and 4.4-7 detail the existing and proposed peak discharges for the 2-, 5-, 10-, 25-, 50-, and 100-year storm event and summarize the change in percentages for each event and drainage area. For a detailed summary of the WinTR-55 model runs see Appendix B. These include the calculations of the time of concentration and the peak discharge by rainfall return period, a detailed summary of land-use and curve numbers, and the plots of modeled hydrographs.</p> <p>As presented in Tables 4.4-3, 4.4-4 and 4.4-6, the WinTR-55 hydrologic model indicates that there will be a zero increase in the peak flow discharge within and off the Rodgers property from the Lake Hennessy Gulch, Rodgers Southwest Gulch, and Rodgers South Gulch Catchments during the 2-, 5-, 10-, 25-, 50-, and 100-year frequency storms, under the post-project conditions. Thus, there would be no runoff impacts to Lake Hennessey and the North Rodgers Pond, and to the on-site stream channel stability of the Lake Hennessey, Rodgers Southwest, and Rodgers South gulches.</p> <p>As presented in Tables 4.4-5 and 4.4-7, increases in peak flow discharge were predicted to occur within and off the property from the Rodgers Southeast Gulch and the Sage Canyon Road Gulch Catchments during the 2-, 5-, 10-, 25-, 50-, and 100-year frequency storms, under the post-project conditions. These increases are related to the slight increase in the curve number, and amount to about 3 cfs (Rodgers Southeast Gulch) and 0.6 cfs (Sage Canyon Gulch). In terms of a relative change, the increases range from 1.4% (the 100-year storm peak runoff) to 4.6% (the 2-year</p>	LTS w/ M	<	<

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

**Table 2-1
Comparative Summary of Environmental Impacts**

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE		
	Project	No Project Alternative	Resource Conservation Alternative
<p>storm peak runoff). A 2.9% increase in runoff was predicted to occur during the 10-year frequency storms.</p> <p>In terms of the total volume of runoff over an hour of peak flow, the predicted increases in the peak flows during a 24-hour, 100-year frequency storm event would amount to 0.3 acre-foot. Increases in the total volume of runoff are only found in the Rodgers Southeast Gulch Catchment (0.26 acre-foot) and Sage Canyon Road Gulch Catchment (0.06 acre-foot).</p> <p>Peak discharge increases are predicted in two catchments, Rodgers Southeast Gulch and Sage Canyon Road Gulch, under the post-project conditions. Because of natural landforms, the Rodgers Southeast Gulch Catchment is naturally disconnected from Conn Creek and Napa River. Therefore, there would be no runoff impacts to these waterbodies. Additionally, about 20% of the predicted increase in the catchment runoff would occur above the Rodgers South Pond, and therefore would be stored on-site. However, Sage Canyon Road Gulch is fully connected to Conn Creek for delivery of runoff and sediment. Unless mitigated, the predicted increases within the Sage Canyon Road Gulch Catchment would be transmitted to Conn Creek and the Napa River. Since Napa County DPW conducted maintenance operations along Silverado Trail, stormwater drainage is not an immediate concern.</p> <p>These increases in peak discharge and volume were determined to be significant due to the proximity of Silverado Trail, Conn Creek and the Napa River.</p> <p>Mitigation Measure 4.4-6. Mechanical Contouring</p> <p>To mitigate for increased volume and peak flow runoff within the Rodgers Southeast Gulch and the Sage Canyon Road Gulch Catchments, the applicant will incorporate mechanical contouring techniques for portions of the proposed vineyard blocks within the relevant catchments (Figure 4.4-3). Mechanical contouring involves the construction of subtle cross-slope, outsloped terrace benches. Such features prevent the concentration of runoff and promote infiltration. In addition, the soil would be amended to ensure the effectiveness of mechanical contouring in reducing volume and peak flow runoff. Assuming that the contouring would take place within the relevant catchment portions of the proposed vineyard blocks, two additional WinTR-55 model runs were performed. These model runs predicted there would be a zero increase in peak flow discharge within and off these two catchments, under the post-project conditions. The results of the peak flow discharge calculations, assuming installation of mitigation measures, are summarized in Tables 4.4-8 and 4.4-9.</p> <p>As Table 4.4-8 details, a slight decrease in peak flows would occur within the Rodgers Southeast Gulch Catchment, as the curve number for that catchment would decrease from 85 to 84 following the development of the vineyard. The decrease would range from 1.4% (the 100-year storm peak runoff) to 4.6% (the 2-year storm peak runoff). As shown in Table 4.4-9, within the Sage Canyon Road Gulch Catchment, peak flows would not change from existing conditions following the implementation of mitigation measures.</p>			

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project

Notes:

LTS w/M = Mitigation is required to result in a less than significant impact.

LTS = Less Than Significant Impact

< Impact less than Project

> Impact greater than Project

= Impact similar to Project