State Route 116/Mirabel Road Intersection Improvement Project

SONOMA COUNTY, CALIFORNIA
DISTRICT 4 – SON – 116, PM 19.2/19.5
1A4210/0400000487

Initial Study
With Mitigated Negative Declaration

Prepared by the
State of California Department of Transportation
and the County of Sonoma

August 2013
GENERAL INFORMATION ABOUT THIS DOCUMENT
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please write to Caltrans District 4, Attn: Valerie Shearer, Senior Environmental Planner, Office
of Environmental Analysis, MS 8B, P.O. Box 23660, Oakland, CA 94623-0660, (510) 286-5594,
or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.
State Route 116 at Mirabel Road Intersection Improvement Project
In Forestville, County of Sonoma, Post Mile 19.2 to 19.5

INITIAL STUDY with Mitigated Negative Declaration
Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation
CEQA Lead Agency

COUNTY OF SONOMA
Department of Transportation and Public Works
CEQA Responsible Agency

Aug 29, 2013
Date of Approval

Melanie Brent
Deputy District Director
Division of Planning and Engineering
California Department of Transportation
District 4

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MITIGATED NEGATIVE DECLARATION
Pursuant to: Division 13, Public Resources Code

Project Description
The California Department of Transportation as the California Environmental Quality Act (CEQA) lead agency, in cooperation with the County of Sonoma (project sponsor and CEQA responsible agency), proposes to construct improvements at the intersection of State Route (SR) 116 and Mirabel Road in Forestville, Sonoma County. The project includes construction of a roundabout at the intersection to improve traffic flow, and lowering of SR 116 west of the intersection to improve sight distance.

Determination
Caltrans has prepared an Initial Study for this project, and following public review, has determined from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The project would have no effect on land use, growth, coastal resources, hydrology and floodplains, wild and scenic rivers, plant species, and threatened and endangered species.

In addition, the project would have no significant effect on consistency with state/regional/local plans; farmlands; community character and cohesion, relocations and real property acquisition; utilities; emergency services; traffic and transportation/pedestrian and bicycle facilities; cultural resources; water quality and storm water runoff; geology, soils and seismicity; hazardous waste and materials; air quality; noise; wetlands and other waters; animal species; invasive species; cumulative impacts; and climate change.

With the following mitigation measures incorporated, the proposed project would have less than significant effects to visual/aesthetics, paleontological resources, and biological resources:

- A landscape plan will be implemented and will include center island landscaping, retaining wall texturing, and cut-slope/retaining wall planting.
- A Paleontological Mitigation Plan will be implemented during construction.
- Forty-nine native trees will be planted to mitigate for the removal of twenty-seven native trees.

Melanie Brent
Deputy District Director
Division of Planning and Engineering
California Department of Transportation
District 4

Date Aug. 29, 2013
SUMMARY

The California Department of Transportation (Department or Caltrans) as the California Environmental Quality Act (CEQA) lead agency for the project, in cooperation with the County of Sonoma (County) as the project sponsor and CEQA responsible agency, proposes to construct improvements at the intersection of State Route (SR) 116 and Mirabel Road in Forestville, Sonoma County. The project includes construction of a single-lane roundabout at the intersection, lowering of the crest vertical curve on SR 116 west of the intersection, and profile modifications/sight distance improvements at the SR 116 and Hidden Lake Road intersection.

The project’s purpose is to improve the operation and safety of the existing “T” intersection at Mirabel Road and SR 116. The project would reduce peak-period delays at the intersection and improve traffic flow. The project would improve traffic safety by increasing the sight distance on the crest vertical curve on SR 116, just west of Mirabel Road, providing standard shoulder widths and improving the turning movements and lines of sight to and from Hidden Lake Road. Pedestrian access would also be improved by the construction of crosswalks at the SR 116/Mirabel Road intersection.

This Initial Study addresses the project’s potential to have adverse impacts on the environment. Potential impacts and avoidance, minimization, and mitigation measures are summarized in Table S-1.

Table S-1. Summary of Project Impacts, and Avoidance, Minimization and/or Mitigation Measures.

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<tr>
<th>Affected Resource</th>
<th>Potential Impact</th>
<th>Avoidance, Minimization, and/or Mitigation Measures</th>
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<tr>
<td>Land Use</td>
<td>The project would require small right-of-way acquisitions from several parcels, as well as construction on portions of parcels for which the County has existing slope or roadway easements. However, these minor acquisitions would not change the land use on the remainder of the parcels, nor conflict with their zoning or development potential.</td>
<td>None Required.</td>
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| Consistency with State, Regional and Local Plans and Programs | The project is consistent with Sonoma County General Plan Policies, with implementation of the avoidance and minimization measures.  
  
  *Policy OSRC-3h:* Design public works projects to minimize tree damage and removal along Scenic Corridors. Where trees must be removed, design replanting programs so as to accommodate ultimate planned highway improvements. Require revegetation following grading and road cuts.  
  
  *Policy OSRC-7o:* Encourage the use of native plant species in landscaping. For discretionary projects, require the use of native or compatible non-native species for landscaping where consistent with fire safety. Prohibit the use of invasive exotic species. | The project would implement the measures described from Section 2.1. 8, Visual/Aesthetics; Section 2.3.1 Natural Communities; and Section 2.3.6, Invasive Species, to ensure consistency with the Sonoma County General Plan. |
<p>| Parks and Recreation                                  | The project could impact the future extension of the West County Trail at its connection with the SR 116/Mirabel Road intersection if not properly designed.                                                                 | Caltrans and the Sonoma County Department of Transportation and Public Works (DTPW) would coordinate with the Sonoma County Regional Parks Department to ensure the roundabout design could accommodate a future West County Trail crossing at the SR 116 Intersection. Coordination would address issues including, but not limited to, grades, Americans with Disabilities Act (ADA) compliance, and signage. |</p>
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<td>Growth</td>
<td>The County’s planned growth and land uses are not expected to change with or without the project. Therefore, while the project would be compatible with planned growth, it would not induce growth.</td>
<td>None required.</td>
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<td>Farmlands</td>
<td>The project would require the use of land mapped as Unique Farmland and Farmland of Local Importance, resulting in the direct conversion of 1.06 acres of Unique Farmland and 0.73 acres of Farmland of Local Importance to roadway uses, and the potential indirect conversion of an additional 0.30 acres of Unique Farmland. The project would not impact Prime Farmland or Farmland of Statewide Importance.</td>
<td>None required.</td>
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<td>Community Character and Cohesion</td>
<td>The project would not change existing community boundaries or divide neighborhoods. Connectivity for pedestrians to downtown Forestville would be improved by the project through installation of crosswalks. Impacts to community character could occur if the aesthetic features selected for the roundabout and center island landscaping are not in keeping with those desired by the community.</td>
<td>A landscaping plan addressing the center island landscaping, retaining wall texturing and landscaping, and cut-slope landscaping would be developed during the design phase. One or more public meetings would be held in the design phase, during which the public would be invited to comment on the proposed plan. The final plan would be provided to the community prior to implementation.</td>
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<tr>
<td>Community Character and Cohesion</td>
<td>The community would experience temporary inconveniences from project construction activities, including noise, dust, intermittent traffic disruptions, and visual effects.</td>
<td>These effects and appropriate avoidance and minimization measures are discussed in sections 2.2.6, Noise; 2.2.5, Air Quality; 2.1.7, Traffic and Transportation/Pedestrian and Bicycle Facilities; and 2.1.8, Visual/Aesthetics.</td>
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<tr>
<td>Community Character and Cohesion</td>
<td>The citizens of Forestville hold an annual tree lighting celebration each year in the semi-paved/gravel area southeast of the SR 116/Mirabel intersection near the eastern project limits. The project would require minor widening and frontage improvements along SR 116 at this location, which could interfere with the tree lighting activities.</td>
<td>The Contractor would be required to avoid the tree lighting area between November 15 and January 1 and keep it free of obstructions during this time.</td>
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<td>Relocations and Real Property Acquisition</td>
<td>The project would not require relocation of households or businesses. The project would require partial acquisition along property frontages. Temporary construction easements (TCEs) would be required from some parcels in order to construct the project.</td>
<td>Property acquisition would be conducted in compliance with Title VI of the Civil Rights Act (42 U.S. Code 2000d, et seq.). Compensation would be negotiated with all affected property owners during the right-of-way acquisition phase. Access to all properties would be provided during construction.</td>
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<tr>
<td>Utilities</td>
<td>Underground and overhead utilities would require relocation.</td>
<td>Caltrans would coordinate relocation work with the affected utility companies to ensure minimum disruption of services to customers in the area during construction.</td>
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| Emergency Services                        | The roundabout has been appropriately sized to ensure safe passage of emergency service vehicles, including fire engines. Limited lane widths within the roundabout splitter islands may not allow room for an emergency vehicle to pass other vehicles queued to enter the roundabout, and could result in some increase to emergency response times. | A public education campaign would be implemented to inform area drivers and residents about the new roundabout, and would include information on how drivers should respond when emergency vehicles are approaching the roundabout. The campaign would include measures such as:  
  - Hold public meetings prior to opening the roundabout to traffic and/or give presentations at local organization meetings;  
  - Prepare news releases detailing what motorists and pedestrians can expect during and after construction; and  
  - Distribute an informational brochure to residents explaining how to navigate roundabouts (both in a vehicle and as a pedestrian).                                                                 |
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<tr>
<td>Emergency Services</td>
<td>Construction delays could affect emergency vehicle response.</td>
<td>A Transportation Management Plan would be prepared and implemented to address traffic handling during construction. Local emergency services would be notified prior to construction informing them of the construction schedule. The Contractor would be required to maintain access to properties at all times.</td>
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<td>Traffic &amp; Transportation/Pedestrian and Bicycle Facilities</td>
<td>Vehicles turning left into the south driveway of the Rotten Robbie gas station from eastbound SR 116 could impact roundabout operations.</td>
<td>To minimize the effect on traffic operations of the roundabout by vehicles making a left turn from eastbound SR 116 into the south driveway of the Rotten Robbie gas station, a “Keep Clear” pavement marking would be included on westbound SR 116 at the south entrance of the Rotten Robbie gas station, just east of the roundabout. This would discourage vehicles queued at the westbound SR 116 approach from blocking the entrance to the gas station. In addition, a sign prohibiting left turns during weekday a.m./p.m. peak periods facing eastbound traffic on SR 116 would be placed on the splitter island, just west of the aforementioned south driveway.</td>
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<tr>
<td>Traffic &amp; Transportation/ Pedestrian and Bicycle Facilities</td>
<td>The roundabout has been designed for the 65-foot long California Legal Design Vehicle. However, extra-legal (oversize vehicles) require special accommodations to travel through the intersection.</td>
<td>Extra-legal vehicles would be required to obtain a transportation permit from Caltrans prior to using the intersection. The intersection would be temporarily closed and a pilot vehicle would be used to stop traffic so that the extra-legal vehicle can pass through the intersection. Extra-legal vehicles traveling from eastbound SR 116 to northbound Mirabel Road would make a wrong-way (left turn) movement through the roundabout, from eastbound SR 116 onto northbound Mirabel Road. A right turn from Mirabel Road onto SR 116 can be completed by encroaching onto the splitter island, without encroachment into the opposite lanes. The roundabout would be designed so that the extra-legal vehicle can complete the turns by passing over a portion of the splitter island and the truck apron. Roundabout signs would be placed in locations that would not interfere with these turning movements.</td>
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<tr>
<td>Traffic &amp; Transportation/ Pedestrian and Bicycle Facilities</td>
<td>The Sonoma County Transit bus stops on Mirabel Road just north of SR 116 may need to be relocated temporarily during construction.</td>
<td>Caltrans would coordinate the relocation of the bus stops with Sonoma County Transit in advance of construction.</td>
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| Traffic & Transportation/ Pedestrian and Bicycle Facilities | A lack of familiarity with how roundabouts operate could initially lead to conflicts between vehicles and pedestrians or cyclists. | A public education campaign would be implemented to inform area drivers, cyclists, and residents about the new roundabout. The campaign would include measures such as:  
  - Hold public meetings prior to opening to the roundabout to traffic and/or give presentations at local and cycling organization meetings;  
  - Prepare news releases detailing what motorists, cyclists, and pedestrians can expect during and after construction;  
  - Distribute an informational brochure to residents explaining how to navigate roundabouts (both in a vehicle, as a cyclist and as a pedestrian); and  
  - Install signing that warns of changed traffic patterns.  
  The Sonoma County Bicycle and Pedestrian Advisory Committee (SCBPAC) has reviewed the preliminary project design. Caltrans would coordinate with the BPAC during the design phase. |
| Traffic & Transportation/ Pedestrian and Bicycle Facilities | Intermittent traffic delays could occur during project construction. | A Transportation Management Plan would be prepared and implemented to address traffic handling during construction, including non-motorized traffic.  
  Access to driveways would be maintained during construction. |
<p>| Visual/Aesthetics | The proposed retaining wall along the north side of SR 116 may be viewed as an adverse impact by some viewers. | The area located between the tiered walls would be landscaped with native shrubs to the extent feasible (based on maintenance requirements and space constraints) in order to partially screen portions of the wall and provide a more natural appearance. The wall would also be given a texture and color to harmonize with natural surroundings in the SR 116 corridor and/or with roundabout landscape elements. |
| Visual/Aesthetics | The loss of shrubs on the existing south-side cut slope may be viewed as adverse. | Cut slope planting (using no-maintenance native shrubs, grasses and/or groundcover) would be included in the project landscaping plan. |</p>
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<td>Visual/Aesthetics</td>
<td>The project would result in the removal of 36 trees along the roadway.</td>
<td>The County would replant a minimum of 49 native trees. To the extent feasible, tree planting would occur within the right-of-way within the project limits. However, right-of-way space is expected to be limited due to the need to accommodate utilities and maintenance access, and to limit right-of-way acquisition and impacts to adjacent properties. The County of Sonoma would offer to plant trees on private property along the project frontage for those property owners who are interested. If all tree replanting cannot be achieved at these locations, the remaining trees would be planted at an off-site location (Sunset Beach Regional Park) as required per the Section 2.3.1, Natural Communities. If off-site planting is required, additional planting of shrubs and other native vegetation along the project cut slopes would be used to mitigate for any remaining visual impact due to the loss of trees.</td>
</tr>
<tr>
<td>Visual/Aesthetics</td>
<td>The project could result in impacts to the visual character of the community.</td>
<td>A landscaping plan addressing center island landscaping, retaining wall texturing and landscaping, and cut-slope landscaping would be developed during the design phase, incorporating input from the citizens’ committee. One or more public meetings would be held in the design phase, during which the public would be invited to comment on the plan. The final plan would be provided to the community prior to implementation.</td>
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<td>Visual/Aesthetics</td>
<td>During construction of the project, viewers would see materials, equipment, workers, disturbed soils and the operation of construction equipment.</td>
<td>The contractor would be required to comply with Section 5-1.31, Job Site Appearance, of the Caltrans Standard Specifications (2010), which requires the job site to be kept neat. Construction staging and storage areas would be screened where feasible. Visual opaque screening would be used to limit exposure to the public for any extended period of time.</td>
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<tr>
<td>Visual/Aesthetics</td>
<td>The project could result in visual impacts to SR 116, an officially designated State Scenic Highway.</td>
<td>Tree removal has been limited to that necessary to construct the project. The project with incorporation of the mitigation measures including textured retaining walls, landscape plantings, and tree replacement would be consistent with relevant scenic/visual resources policies of the County and the scenic highway corridor protection program.</td>
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<td>Cultural Resources</td>
<td>The project would have no impacts to significant historical resource(s), pursuant to CEQA Guidelines §15064.5(b)(3). However, the project includes roadway excavation, slope grading and associated ground disturbing activities. Therefore, there is the potential for the project to unearth previously unidentified cultural resources.</td>
<td>If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find. If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission (NAHC) who would then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains would contact Emily Darko at (510) 622-1673 or <a href="mailto:Emily_Darko@dot.ca.gov">Emily_Darko@dot.ca.gov</a> so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.</td>
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<td>Water Quality and Storm Water Runoff</td>
<td>Temporary adverse impacts could result from construction-related erosion and subsequent transport of sediment to surface waters. Potential exists for spills and leaks of fluids from vehicles and equipment used during construction. The project would increase the amount of permanent impervious surface (paved area) by 0.56 acres over the existing conditions. The area of reconstructed pavement is 1.38 acres.</td>
<td>According to Caltrans’ NPDES permit and the Construction General Permit, Best Management Practices (BMPs) would be incorporated to reduce the discharge of pollutants during the construction and operation of the project to the Maximum Extent Practicable, including Construction Site BMPs, Permanent Design Pollution Prevention BMPs, and Permanent Treatment BMPs, as described in Section 2.2.1.</td>
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<td>Geology/Soils/Seismic/Topography</td>
<td>The project would result in the creation of temporary and permanent roadway slopes, as well as temporary and permanent retaining walls.</td>
<td>To minimize potential impacts from seismic events, the project would be constructed in accordance with all applicable Caltrans standards and regulations, and would be designed for the maximum credible earthquake (MCE). All construction activities would adhere to current engineering practices and recommendations provided by a Geotechnical Engineer/Engineering Geologist. A licensed engineer and/or their representative, experienced in the design and construction of soil nail walls would monitor the soil nail wall construction along SR 116. As the soil nail wall is constructed from the top down, the licensed engineer or their representative would observe the exposed material in the cut face and cuttings from the soil nail drill holes to verify that the conditions are consistent with those assumed during design. If the conditions exposed in the excavation are weaker than assumed in the design, the soil nail wall design would be modified such that the design meets the minimum factors of safety specified in the geotechnical report. The contractor would be prepared to divert or pump seeping groundwater from the slope area during construction activities if encountered. Fluctuations of the groundwater level, localized zones of</td>
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<td>perched water and soil moisture content variations should be anticipated during</td>
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<td>and following the rainy season.</td>
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<td>Temporary and permanent measures would be implemented to reduce the impact of</td>
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<td>erosion, including, but not limited to, appropriate vegetative cover of disturbed</td>
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<td>areas to stabilize soil against wind and water erosion, and construction of</td>
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<td>erosion resistant drainage structures to collect surface water and divert it away</td>
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<td>from slopes to suitable discharge points. Erosion control would be applied and</td>
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<td>landscape planting would be established as soon after grading as possible.</td>
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<td>As described in Section 2.2.1, a Storm Water Pollution Prevention Plan (SWPPP)</td>
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<td>would be implemented during construction to limit erosion.</td>
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<td>Construction activities would comply with applicable occupational safety and</td>
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<td>health standards, rules, regulations, and orders, as well as Caltrans Standard</td>
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<td>Specifications for occupational safety and health and excavation safety.</td>
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<td>Paleontology</td>
<td>The project includes excavation and could uncover previously unidentified</td>
<td>As described in Section 2.2.3, a Paleontological Mitigation Plan would be implemented, which includes oversight by a qualified professional paleontologist, worker training, construction monitoring and sampling, and a data recovery plan for the recovery, preparation, cataloguing and transfer of significant paleontological resources to a recognized, nonprofit paleontological specimen repository with a permanent curator, such as a museum or a university.</td>
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<td>paleontological resources.</td>
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<td>Hazardous Waste/</td>
<td>The project would require grading and/or excavation into soils potentially</td>
<td>Testing for ADL would be performed at the Plans, Specifications and Estimates (PS&amp;E) stage prior to project construction. If ADL is found, special handling of the contaminated soil would be required and would include implementing a Health and Safety Plan. Soil that is disturbed by the project would be handled and disposed of in accordance with all local, State, and Federal requirements.</td>
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<td>Materials</td>
<td>contaminated with aerially deposited lead (ADL) during project construction.</td>
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<td>This could result in adverse impacts to workers or the environment if soils are</td>
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<td>improperly handled or disposed of.</td>
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| Air Quality       | The project would result in construction-related impact to air quality from dust and construction vehicle emissions. | The construction contractor would comply with Caltrans’ Standard Specifications in Section 14 (2010).  
- Section 14-9.01 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.  
- Section 14-9.02 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are contained in Section 18.  
The contractor would develop a dust control plan documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.  
All exposed surfaces (e.g., parking areas, staging areas, graded areas, and unpaved access roads) would be watered two times per day, or more frequently as necessary, to minimize dust.  
(Alternatively, dust palliative materials may be used.)  
The contractor would enclose, cover, water twice daily, or apply nontoxic soil binders to exposed stockpiles (dirt, sand, etc.).  
All haul trucks transporting soil, sand, or other loose material off-site would be covered.  
All visible mud or dirt track-out onto adjacent public roads would be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.  
All vehicle speeds on unpaved roads would be limited to 15 mph.  
All roadways, driveways, and sidewalks to
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<td>Noise</td>
<td>The project may result in a permanent increase in noise of one decibel at one receptor.</td>
<td>None required.</td>
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be paved would be completed as soon as possible.

Idling times would be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage would be provided for construction workers at all access points.

All construction equipment would be maintained and properly tuned in accordance with manufacturer’s specifications. Use low-sulfur fuel in all construction equipment as provided in California Code of Regulations Title 17, Section 93114.

A publicly visible sign would be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person would respond and take corrective action within 48 hours. The Air District’s phone number would also be visible to ensure compliance with applicable regulations.

The contractor would install stabilized construction entrances and/or wheel washes at project access points to minimize dust and mud deposits on roads affected by construction traffic.

The contractor would install permanent erosion control as soon as practical after grading to reduce windblown particulate in the area.

Route and schedule construction traffic to avoid peak travel times as much as possible, to reduce congestion and related air quality impacts caused by idling vehicles along local roads.
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<th>Affected Resource</th>
<th>Potential Impact</th>
<th>Avoidance, Minimization, and/or Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise</td>
<td>The project may result in a temporary increase in noise at receptors from construction activities.</td>
<td>Construction would occur in compliance with the provisions set forth in Section 14-8.02 of Noise Control, included in the latest Caltrans Standard Specifications. These Standard Specifications are meant to minimize the impact from short duration construction noise, and include the following requirements:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Do not exceed 86 dBA $L_{max}$ at 50 feet from the job site activities from 9 p.m. to 6 a.m. (See the measure below for a description of limitations to working hours.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Equip internal combustion engines with the manufacturer-recommended muffler. Do not operate internal combustion engines on the job site without the appropriate muffler.</td>
</tr>
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<td></td>
<td>The construction contractor would designate a noise disturbance coordinator who would be responsible for responding to complaints regarding construction noise. The coordinator would determine the cause of the complaint and ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the noise disturbance coordinator would be posted conspicuously on construction site fences, and would be included in the notice sent to nearby residents regarding the project’s schedule.</td>
</tr>
<tr>
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<td>Construction would occur between 7:00 a.m. and 7:00 p.m. on weekdays, and 9:00 a.m. and 5:00 p.m. on weekends. Exceptions to the work hours may be necessary for limited periods in order to minimize lane closures on SR 116 (such as during activities to conform road and driveway grades in the vicinity of Hidden Lake Road), or to prevent emergency or respond to an existing emergency. Other than work to prevent or respond to an emergency, exceptions to the construction hours would require prior approval by the County. Residents would be notified five days in advance of work outside the</td>
</tr>
<tr>
<td>Affected Resource</td>
<td>Potential Impact</td>
<td>Avoidance, Minimization, and/or Mitigation Measures</td>
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<tr>
<td></td>
<td>specified hours.</td>
<td>Unnecessary idling of internal combustion engines within 100 feet of residences would be prohibited.</td>
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<td></td>
<td>Staging of construction equipment within 200 feet of residences would be avoided, and all stationary noise-generating construction equipment, such as air compressors, portable power generators, or self-powered lighting systems would be located as far practical from noise sensitive residences.</td>
</tr>
<tr>
<td>Natural Communities</td>
<td>The project could result in temporary impacts to oak woodland from the use of the project staging area.</td>
<td>All trees within the identified staging area would be retained. Caltrans would require the contractor to install temporary plastic mesh-type construction fencing (Tensor Polygrid or equivalent) that is a minimum of four-feet tall between the construction zone and trees to be retained to prevent inadvertent damage. Fencing would be located at or outside of the tree drip lines. Fencing locations would be determined in consultation with the Sonoma County Permit and Resource Management Department (PRMD) and shown on plans when final design of the project is complete. No storage of oil, gasoline, chemicals or other substances that may be harmful to trees would occur within the drip line of any tree, or any other location on the site from which such substances might enter the drip line. Following construction, all construction equipment and materials would be removed from the staging area. All areas within the staging area where soil has been exposed would be treated with erosion control BMPs to prevent loss of topsoil.</td>
</tr>
<tr>
<td>Affected Resource</td>
<td>Potential Impact</td>
<td>Avoidance, Minimization, and/or Mitigation Measures</td>
</tr>
<tr>
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</tbody>
</table>
| Natural Communities      | The project would require the removal of 27 native trees located within the right-of-way and along property frontages. | Tree removal and pruning would be allowed where needed, but would be limited to that necessary to construct the project. Wherever feasible, vegetation would be tied back in lieu of cutting. Pruning activities would be conducted in conformance with American National Standard Institute (ANSI 2008) and International Society of Arboriculture (ISA 2008) standards. When excavating within the root zones of trees to be retained, care would be taken to minimize damage to the tree root system. Whenever feasible, excavation near trees using heavy equipment would be carried out by pulling the bucket or blade away from the tree (parallel to the roots) to minimize cracking and damaging of roots left in the soil. As roots are exposed during excavation, those that are one inch in diameter or greater would be cut cleanly at the surface of the excavation using hand tools. Roots would be cut progressively as they are exposed until the finish grade of the excavation is reached. Caltrans would require the contractor to install temporary plastic mesh-type construction fencing (Tensor Polygrid or equivalent) that is a minimum of four-feet tall between the construction zone and remaining street trees to prevent accidental disturbance. Fencing locations would be determined in consultation with PRMD and shown on plans when final design of the project is complete. To mitigate for the permanent loss of 27 native trees, the County would plant a minimum of 49 trees. The mitigation ratio used to determine the number of replacement trees was based on the size the tree (measured by diameter at breast height) and roughly based on the Sonoma Tree Protection Ordinance. Oak trees would be replaced with oak trees, to the maximum extent feasible. Other native species would be replaced with the same species, or native species suitable to the site. The project uses all of the existing...
<table>
<thead>
<tr>
<th>Affected Resource</th>
<th>Potential Impact</th>
<th>Avoidance, Minimization, and/or Mitigation Measures</th>
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<tr>
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<td>right-of-way, and also requires acquisition of additional right-of-way. Some replanting is possible within the existing or proposed right-of-way, but may be limited due to traffic sight distance requirements, safety issues, and utility conflicts. Trees would be replanted within one or more of the following locations:</td>
</tr>
<tr>
<td></td>
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<td>• In the center island of the roundabout;</td>
</tr>
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<td></td>
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<td>• Within right-of-way near the top of the roadway cut-slope on the south side of SR 116;</td>
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<tr>
<td></td>
<td></td>
<td>• Around the parking area at Sunset Beach Regional Park in cooperation with Sonoma County Regional Parks;</td>
</tr>
<tr>
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<td></td>
<td>• Along the future West County Trail alignment, in cooperation with Sonoma County Regional Parks and private developers; or</td>
</tr>
<tr>
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<td></td>
<td>• On private property along the frontage of SR 116 within the project limits, if desired by the property owners (For each tree planted on private property, a duplicate tree would be planted at Sunset Beach Regional Park to ensure the total required number of trees remain even if a private property owner later removes the tree. These duplicate trees would be in addition to the minimum planting requirement).</td>
</tr>
<tr>
<td></td>
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<td>Trees would be planted in the late fall/early winter following construction to take advantage of seasonal rains, and would be maintained (i.e., watering, herbivore protection, weed control) for three years after installation, with a minimum survival requirement of 80% at the end of the maintenance period.</td>
</tr>
<tr>
<td>Affected Resource</td>
<td>Potential Impact</td>
<td>Avoidance, Minimization, and/or Mitigation Measures</td>
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<tr>
<td>---------------------------</td>
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</tr>
<tr>
<td>Wetlands and Other Waters</td>
<td>There would be no direct impacts to wetlands or other waters of the U.S. or waters of the State. The project is not anticipated to require a USACE 404 or RWQCB 401 permit. Measures have been included in the project to avoid impacts to wetlands or other waters of the U.S. or water of the State from sedimentation of eroded or loose soils generated by construction, or oil, fuel or other pollutants from operation of construction equipment.</td>
<td>The construction boundary would be marked with high visibility fencing a minimum of 48 inches tall, and all natural areas outside the construction zone would be designated as Environmentally Sensitive Areas (ESAs). Delineating the ESA would be designated as the “First Order of Work” in the Project Specifications. Location of the ESA fencing would be determined by a qualified biologist in cooperation with County PRMD staff and shown on the project plans as a thick, solid black boundary. All work would be contained within the construction zone, and no work would be allowed in any area designated as an ESA. All fencing would be removed upon project completion. Continuous silt fence would be installed along the construction boundary to prevent sediment or other substances from exiting the work area. The silt fence would be used in conjunction with the ESA fencing. Spill control absorbent material would be in place under any construction equipment stored, refueled, or maintained in the staging area. The avoidance and minimization measures in Section 2.2.1, Water Quality and Storm Water Run-off, including implementation of a SWPPP and revegetation of cut-slopes, would further minimize indirect impacts to wetlands or waters.</td>
</tr>
<tr>
<td>Plant Species</td>
<td>The project would not impact special status plant species.</td>
<td>None required.</td>
</tr>
<tr>
<td>Affected Resource</td>
<td>Potential Impact</td>
<td>Avoidance, Minimization, and/or Mitigation Measures</td>
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<tr>
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</tr>
<tr>
<td>Animal Species</td>
<td>The project could result in construction-related impacts to western pond turtle, pallid bat, white-tailed kite and migratory birds.</td>
<td>Measures would be implemented as described in Section 2.3.4, Animal Species, including exclusionary fencing, preconstruction surveys, and construction worker training for western pond turtle, preconstruction roosting surveys for pallid bat, vegetation removal outside of the bird-nesting season when feasible, and preconstruction surveys for nesting birds.</td>
</tr>
<tr>
<td>Threatened and Endangered Species</td>
<td>The project would not impact threatened and endangered species.</td>
<td>None required.</td>
</tr>
<tr>
<td>Invasive Species</td>
<td>The project could result in the spread of invasive species in areas disturbed by construction.</td>
<td>Caltrans would require the contractor to regularly inspect and clean construction equipment to prevent spread of plant materials and/or seeds.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Erosion and sediment control seed mix would not contain species listed as noxious weeds.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In replanting areas, Caltrans would implement a 3-year plant establishment period to allow native species to become established. Control methods for invasive species and maintenance intervals would be established based on recommendations of a person/company qualified in ecological restoration and invasive species control.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chemical control methods, if needed, would be limited to those considered non-toxic to aquatic life.</td>
</tr>
<tr>
<td>Cumulative Impacts</td>
<td>The project and the proposed Mirabel Shoulder Widening Project could result in temporary cumulative impacts to traffic and noise during construction, if constructed simultaneously.</td>
<td>Caltrans and the County would coordinate construction activities for the project and the Mirabel Road Shoulder Widening project to minimize traffic disruption and cumulative construction noise to the maximum extent feasible.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Section 14-8.02, Noise Control, of the Caltrans Standard Specifications would be applied to the project and the Mirabel Road Shoulder Widening Project.</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

Chapter 1 - PROPOSED PROJECT ............................................................................................ 1
  1.1 Introduction .................................................................................................................. 1
  1.2 Purpose and Need ......................................................................................................... 1
  1.3 Project Description ...................................................................................................... 8
  1.4 Alternatives ................................................................................................................ 8
    1.4.1 Build Alternative (The Project) ........................................................................ 8
    1.4.2 No-Build Alternative ...................................................................................... 12
    1.4.3 Alternatives Considered but Eliminated from Further Discussion .............. 12
  1.5 Project Funding, Estimated Cost, and Schedule ....................................................... 13
  1.6 Permits and Approvals Needed ................................................................................. 13

Chapter 2 - AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND
AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES ........................................ 14
  2.1 Human Environment ................................................................................................. 15
    2.1.1 Land Use ......................................................................................................... 15
    2.1.2 Growth .......................................................................................................... 21
    2.1.3 Farmlands ...................................................................................................... 22
    2.1.4 Community Character And Cohesion ......................................................... 29
    2.1.5 Relocations And Real Property Acquisition .............................................. 30
    2.1.6 Utilities / Emergency Services .................................................................. 32
    2.1.7 Traffic And Transportation/Pedestrian And Bicycle Facilities ................ 34
    2.1.8 Visual / Aesthetics ....................................................................................... 41
    2.1.9 Cultural Resources ....................................................................................... 50
  2.2 Physical Environment ............................................................................................... 52
    2.2.1 Water Quality And Storm Water Runoff ..................................................... 52
    2.2.2 Geology / Soils / Seismic / Topography ...................................................... 58
    2.2.3 Paleontology ................................................................................................. 61
    2.2.4 Hazardous Waste/Materials ....................................................................... 66
    2.2.5 Air Quality .................................................................................................... 68
    2.2.6 Noise ............................................................................................................. 74
  2.3 Biological Environment .............................................................................................. 80
    2.3.1 Natural Communities ..................................................................................... 80
    2.3.2 Wetlands And Other Waters ....................................................................... 85
    2.3.3 Plant Species ................................................................................................. 87
    2.3.4 Animal Species ............................................................................................. 89
    2.3.5 Threatened And Endangered Species ......................................................... 94
    2.3.6 Invasive Species ........................................................................................... 98
  2.4 Cumulative Impacts .................................................................................................. 100
  2.5 Climate Change (CEQA) ......................................................................................... 106

Chapter 3 - COMMENTS AND COORDINATION .................................................................. 117

Chapter 4 - LIST OF PREPARERS ....................................................................................... 120

Chapter 5 - DISTRIBUTION LIST ...................................................................................... 122

Chapter 6 - REFERENCES .................................................................................................. 125
APPENDICES

Appendix A  CEQA Checklist
Appendix B  Project Plans, Profiles, and Cross Sections
Appendix C  Construction Sequencing Plans
Appendix D  Title VI Policy Statement
Appendix E  United States Department of Agriculture Form AD 1006
Appendix F  Preliminary Landscape Concepts developed by the Citizen’s Committee
Appendix G  Aerial Views
Appendix H  Species Potentially Present in the Project Region
Appendix I  Agency Comments in Response to “Notice of Project to Receive Environmental Review”
Appendix J  List of Acronyms
Appendix K  Comments on the Initial Study
Appendix L  Environmental Committments

LIST OF TABLES

Table 1. Accident Rates on SR 116 Compared to Statewide Average ........................................ 5
Table 2. Definitions of Bike Route Designations ........................................................................ 7
Table 3. Land Use and Zoning of Adjacent Parcels ................................................................... 15
Table 4. Land Use and Zoning for Parcels Containing Mapped Farmland ................................ 24
Table 5. Proposed Farmland Conversion .................................................................................. 27
Table 6. Proposed Property Acquisitions ................................................................................... 31
Table 7. Existing and Future Traffic Levels of Service ............................................................... 35
Table 8. Caltrans Paleontological Sensitivity Terminology ........................................................ 63
Table 9. National and California Ambient Air Quality Standards and NSCAPCD Attainment Status ........................................................................................................................................ 69
Table 10. Existing and Predicted Noise Levels .......................................................................... 77
Table 11. Construction Noise Levels at 50 feet ......................................................................... 78
Table 12. Invasive Species Present at the Project Site ............................................................. 99
Table 13. Climate Change/CO2 Reduction Strategies ............................................................ 113

LIST OF FIGURES

Figure 1. Project Location Map .................................................................................................... 3
Figure 2. Project Vicinity Map ...................................................................................................... 4
Figure 3. Land Use ....................................................................................................................... 17
Figure 4. Mapped Farmland ....................................................................................................... 25
Figure 5. Farmland Impacts ....................................................................................................... 28
Figure 6. Photo Simulation Locations ........................................................................................ 44
Figure 7. Photo Simulation of Viewpoint 1 ................................................................................. 45
Figure 8. Photo Simulation of Viewpoint 2 ................................................................................. 46
Figure 9. Photo Simulation of Viewpoint 3 ................................................................................. 47
Figure 10. Geologic Map of the Project Area ............................................................................ 62
Figure 11. Noise Levels of Common Activities ........................................................................ 75
Figure 12. Noise Measurement and Receptor Locations ........................................................... 76
Figure 13. California Greenhouse Gas Forecast ..................................................................... 110
Figure 14. Mobility Pyramid ...................................................................................................... 112
Chapter 1 - PROPOSED PROJECT

1.1 Introduction

The California Department of Transportation (Caltrans) as the CEQA lead agency, in cooperation with the County of Sonoma (County) as CEQA responsible agency and project sponsor, proposes to construct improvements at the intersection of State Route (SR) 116 and Mirabel Road in Forestville, Sonoma County (Figures 1 and 2). The project includes construction of a roundabout at the intersection to improve traffic flow, and lowering of SR 116 west of the intersection to improve sight distance. The project limits extend from approximately 170 feet west of Hidden Lake Road to approximately 430 feet east of the SR116/Mirabel Road intersection (Post Mile (PM) 19.2 to 19.5).

The project is proposed for funding through Measure M (a countywide voter-approved sales tax measure), mitigation fees from approved local development projects, countywide traffic mitigation fees, and Proposition 1B- Local Street and Road, Congestion Relief, and Traffic Safety Account funding. Measure M funding is administered by the Sonoma County Transportation Authority (SCTA). Intersection improvements at SR 116/Mirabel Road are included in the Metropolitan Transportation Commission’s (MTC) 2009 Regional Transportation Plan (RTP), RTP reference number 230341. No federal funding is proposed for the project.

1.2 Purpose and Need

Existing Facility

SR 116 is one of several routes that connect the U.S. 101 corridor to State Route 1 and the Pacific coast in Sonoma County. On this segment, SR 116 is mainly a rural, 2-lane highway that passes through the downtowns of Forestville and Guerneville. It serves as the primary commercial corridor for Forestville, and is used by residents for local access. SR 116 carries a large volume of truck traffic from rock quarries located west of Forestville, many of which make a left turn onto Mirabel Road.

Mirabel Road is a 2-lane road, approximately 1.5 miles long, connecting River Road at the north end to SR 116 at the south end. Several private driveways and residential streets “T” into Mirabel Road. Many local residents use Mirabel Road to access downtown Forestville. There is no planned development on Mirabel Road north of SR 116. As a result, there are no plans to widen Mirabel Road to a 4-lane facility.

The existing 3-leg, “T” intersection at SR 116 (running east/west) and Mirabel Road (running north/south) is unsignalized, and is stop controlled for southbound Mirabel Road traffic only. The southbound Mirabel approach has separate left and right turn lanes at the intersection. The eastbound approach of SR 116 consists of a single lane, and the westbound approach includes a through lane and right turn lane onto Mirabel Road. There is no existing south leg to the intersection.

Approaching Mirabel Road from the west, easterly of Hidden Lake Road, SR 116 is a crest vertical curve with an existing stopping sight distance of 25 miles per hour (mph). SR 116 is on
a steep grade (climbing up towards the east) and has a width of up to 30 feet (edge of pavement (EP) to edge of pavement) with one 12-foot lane in each direction. The posted speed limit on eastbound SR 116 is 35 mph.

Approaching Mirabel Road from the east, SR 116 is on a steep grade (climbing up towards the west) and has a width of 40 feet (curb to curb) with one 12-foot lane in each direction. About 250 feet east of Mirabel Road, the westbound pavement tapers out slightly to provide a 15-foot wide right turn lane to Mirabel Road. The posted speed limit on westbound SR 116 is 25 mph.
Chapter 1. Proposed Project

State Route 116 at Mirabel Road Intersection Improvement Project

Figure 1. Project Location Map
Chapter 1. Proposed Project

Figure 2. Project Vicinity Map

Vicinity Map
State Route 116 at Mirabel Road, Forestville
Intersection Improvement Project
PM 19.2 / 19.5

Figure 2. Project Vicinity Map
Purpose

The purpose of the SR 116/Mirabel Road intersection improvement project is to:

- Improve intersection safety by improving sight distance;
- Improve traffic flow at the intersection;
- Accommodate traffic from future regional growth, as well as anticipated growth from approved development projects, and
- Accommodate bicycle and pedestrian movements.

Need

The need to improve the SR 116/Mirabel Road intersection has been identified from a number of sources, including existing accident data, traffic data, environmental studies completed for approved development projects, regional planning documents, and a voter-approved sales tax measure. Several factors, including safety issues and current and future traffic demand, contribute to the overall need for improvements, as described below.

Roadway Deficiencies

The intersection of Mirabel Road and SR 116 has limited sight distance for eastbound vehicles due to its location below the crest of a hill. The existing stopping sight distance approaching the intersection does not meet current standards for the posted speed limit of 35 mph. The limited sight distance condition is worsened as eastbound trucks and other vehicles queue at the intersection while waiting to make a left turn onto Mirabel Road.

The shoulders on SR 116 are narrow (less than 3 feet) and less than the standard for a 2-lane conventional highway. They do not provide sufficient room for a disabled vehicle to stop and clear the adjacent lane.

Safety

Accident data were reviewed for the segment of SR 116 from approximately 1000 feet west to 500 feet east of the Mirabel Road intersection (PM 19.2 to 19.5). During the three-year period from April 1, 2008 to March 31, 2011, the overall accident rate on SR was 0.74 accidents per million vehicle miles, less than the statewide average of 1.19 for similar facilities. There were three accidents on this segment, all of which were non-injury accidents. Two were at the intersection, both involving vehicles waiting to make a left turn onto Mirabel Road from SR116. One was a broadside collision, and one was a rear-end collision.

Table 1. Accident Rates on SR 116 Compared to Statewide Average, April 2008- March 2011

<table>
<thead>
<tr>
<th>Route</th>
<th>Fatalities</th>
<th>Fatalities &amp; Injury</th>
<th>All Accidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR 116</td>
<td>0.000</td>
<td>0.0</td>
<td>0.74</td>
</tr>
<tr>
<td>Statewide Average</td>
<td>0.026</td>
<td>0.56</td>
<td>1.19</td>
</tr>
</tbody>
</table>

Note: Accident rates are per million-vehicle-miles traveled.
Chapter 1. Proposed Project

The Draft Initial Study analyzed the three-year period from January 1, 2005 through December 31, 2007. The overall accident rate on SR 116 for this time period was 3.04 accidents per million vehicle miles, greater than the statewide average for similar facilities of 1.34. During this period, there were 13 accidents on this segment of SR 116, seven of which were at the SR116/Mirabel Road intersection. All seven were broadside collisions, with the southbound Mirabel Road motorists failing to yield. Two of the seven were injury accidents.

Though the most recent three year period showed fewer accidents compared to prior years and accident rates below the statewide average, the overall accident data and the prevalence of broadside accidents show the potential for accidents at this location.

Capacity and Transportation Demand

Intersection improvements are needed to accommodate existing and future transportation demand. The existing average daily traffic (ADT) (year 2005) on SR 116 is 8,813 vehicles per day and the estimated ADT for year 2035 is 10,620 (SCTA, 2011; Caltrans, 2011). The stop-controlled approach from southbound Mirabel Road onto eastbound SR 116 currently operates at Level of Service (LOS) E during the weekday a.m. peak hour (HDR, 2012). See Table 7 in Section 2.1.7.1 for existing and future traffic LOS.

A traffic analysis shows that the existing intersection will operate poorly (LOS F) in the design year of 2035. The analysis reveals that the average delay during the a.m. and p.m. peak hours will exceed 10 minutes per vehicle for two different “no-build” conditions: 1) If the intersection remains stop-controlled on Mirabel Road, as it is today and 2) If the intersection is changed to an all-way stop (Caltrans, 2013). Under the first “no build” condition, traffic attempting to turn onto SR 116 may accept unreasonable gaps during the peak hours, which could lead to safety issues at the intersection.

An analysis has been conducted at the intersection to determine whether current operations, as well as future (year 2030) operations warrant installation of a traffic signal (Crane Transportation Group, 2006). The signal warrant analysis determined that the intersection has traffic volumes meeting signal warrants for both current operations and for the year 2030.

The County Board of Supervisors has approved expansion of operations at the Blue Rock and Canyon Rock quarries located west of Forestville on SR 116. The Environmental Impact Reports (EIRs) for these two quarry projects identified significant cumulative impacts to LOS at the intersection from the expansions in combination with area wide growth, resulting in increased delay beyond the existing condition. The mitigation measures in the EIRs and conditions of approval for the expansion projects require the quarry operators to make a fair share contribution to improvements at the SR 116/Mirabel Road intersection.

Other approved development may impact traffic demand and the operation of the SR 116/Mirabel Road intersection in the future. The County has approved a tentative map for an 11-lot subdivision of the parcels southwest of the intersection. (The subdivision would access SR 116 via a driveway connected to the roundabout fourth leg.) The County has also approved the Forestville Square project, a mixed-use development at the southeast quadrant of the intersection which includes a town green (open space), residential units, commercial units, and small hotel. Though the future of these developments is uncertain, as projects that have received approval from the County, they are considered in this CEQA document.
Overall growth in the region, planned development, and quarry expansion are expected to lead to additional delay and decline in LOS at the SR 116/Mirabel Road intersection.

Regional Planning and Legislation

The MTC is responsible for regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle and pedestrian facilities. MTC also screens requests from local agencies for state and federal grants for transportation projects to determine their compatibility with the plan. The SR 116 at Mirabel Road roundabout is included in MTC’s 2009 Regional Transportation Plan 2035 (T-2035).

On November 2, 2004, the voters of Sonoma County passed Measure M, a quarter-cent sales tax to address transportation needs throughout the county. Improvements at the SR 116/Mirabel Road intersection are identified in Measure M to relieve congestion and improve safety. Though included under the Forestville Bypass Project, the intersection improvements are identified in the 2009 Measure M Strategic Plan as a separate element that would undergo separate environmental review and be constructed separately from the bypass.

Modal Interrelationships

SR 116 in the project area is designated a Class II bikeway in the Sonoma County Bicycle and Pedestrian Plan (2010) and Sonoma County General Plan 2020. Mirabel Road is designated as a proposed Class II bikeway in these plans (see Table 2 for a definition of bikeway classifications). Improvements to the SR 116/Mirabel Road intersection and its approaches should take into account the status of these roadways as proposed bike routes.

The West County Trail (an existing Class I bike route) is proposed to intersect with SR 116 at Mirabel Road as shown in the Sonoma County Bicycle and Pedestrian Plan. Currently, the proposal is to connect to SR 116 at the Mirabel Road intersection in association with the proposed private development located at the southeast quadrant of the intersection. Measure M identifies continuation of the West County Trail up Mirabel Road to the Forestville Youth Park as a Class I facility, and ultimately to River Road as a Class II facility. It would be difficult for users of this trail to cross safely at the SR 116/Mirabel Road intersection in its current configuration, as SR 116 is not stop-controlled and there are no crosswalks.

<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Class I</td>
<td>Bike Path. Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized.</td>
</tr>
<tr>
<td>Class II</td>
<td>Bike Lane. Provides a striped lane for one-way bike travel on a street or highway.</td>
</tr>
<tr>
<td>Class III</td>
<td>Bike Route. Provides for shared use with pedestrians or motor vehicle traffic.</td>
</tr>
</tbody>
</table>

1.3 Project Description

The project is located in Sonoma County in the community of Forestville and proposes to construct improvements at the intersection of SR 116 and Mirabel Road. This section describes the project and alternatives to the project, including the No Build Alternative.

1.4 Alternatives

The alternatives considered in this document are the Build Alternative (the project) and the No Build Alternative. The Build Alternative would construct a single-lane roundabout at the intersection of SR 116 and Mirabel Road, and lower the profile of SR 116 west of Mirabel Road to improve sight distance. The No Build Alternative would leave the SR 116 and the intersection with Mirabel Road in its existing configuration.

1.4.1 Build Alternative (The Project)

Caltrans, in cooperation with the County, proposes to construct a single lane roundabout at the existing SR 116/Mirabel Road “T” intersection. The roundabout would have a diameter of 130 feet. The proposed limits of work on SR 116 are from approximately 170 feet west of Hidden Lake Road to 430 feet east of Mirabel Road (Post Mile 19.2 to 19.5). The work limits on Mirabel Road would extend approximately 250 feet north of the existing intersection.

Upon completion, the project would operate as a three-leg roundabout, though the fourth leg (northbound approach) of the roundabout is proposed to be constructed as part of the current project. The fourth leg would extend approximately 300 feet south of the existing intersection. Construction of the fourth leg would allow access to SR 116 for an approved development project located on parcel 084-031-072. The development would be allowed to connect a driveway to the southern end of the leg. The fourth leg would be constructed to the southern end of the splitter island in order to preserve the roundabout operational characteristics, and to control approach speeds to the roundabout from vehicles exiting the development. The current design of the roundabout and fourth leg also takes into consideration potential construction of a future Forestville bypass, as identified in the Sonoma County General Plan 2020, though the bypass would undergo its own environmental review and, if approved, would be constructed as a separate project. The design of the fourth leg also allows for a connection to the West County Trail bikeway, which is proposed to be constructed as part of an adjacent development project.

The center of the roundabout would be located approximately 15 feet south of the existing intersection in order to reduce right-of-way impacts to the Westside Center (shopping mall and post office) in the northwest quadrant and the gas station in the northeast quadrant. The offset alignment would also accommodate traffic handling during construction.

The alignment of the roundabout approach legs is slightly curved and offset to reduce the speed of vehicles entering the roundabout, and also to allow for adequate sight distance. The posted advisory speed through the roundabout would be 15 mph.

The proposed lane width within the roundabout is 20 feet. Trucks and other large vehicles would be able to use the truck apron (a traversable area about 12 feet wide behind a mountable curb) located at the outside edge of the center island in order to have sufficient room to complete their turns.
The roundabout includes splitter (median) islands varying in length. Splitter islands guide traffic into the roundabout, physically separate entering and exiting traffic streams, and deter wrong-way movements. The islands also provide a landing/refuge point for pedestrians so that they only have to cross one lane of traffic at a time. Pedestrian crosswalks would be located on all four legs 20 feet behind the yield line for vehicles entering the circle. Sidewalks (a shared bicycle-pedestrian path) would be located on the outside of the roundabout in all four quadrants of the intersection, and would be separated from the roundabout by a buffer strip. Bike riders could choose to use the roundabout depending on their skill level and experience; accomplished riders would merge with vehicle traffic and proceed through the roundabout as would any other vehicle since speeds would be low enough for this. Novice riders would have an option of exiting to the shared bicycle-pedestrian path and crossing at the crosswalks.

The elevation of the roundabout would be slightly lower than the existing intersection. A retaining wall would be required at the northwest corner of the intersection. Excavation and cut slopes with a 2:1 gradient would be required for the northbound approach leg.

SR 116 between Hidden Lake Road and Mirabel Road currently crosses the crest of hill (vertical curve) which restricts sight distance for vehicles at and approaching the intersection. The roadway over the crest of the hill would be lowered to improve sight distance. The new profile of SR 116 would provide a stopping sight distance for a 40 mph design speed. The new roadway would match the existing grade approximately 150 feet west of Hidden Lake Road, at the western project limit. Excavation (maximum cut of 18-20 feet) would be required to lower the roadway and to widen it to allow for a 10-foot shoulder on the north side, an 8-foot shoulder on the south side, and one 12-foot travel lane in each direction. A tiered retaining wall (with a total height of approximately 18 feet) is proposed along the north side of SR 116 between Mirabel Road and Hidden Lake Road. The wall would be given a textured finish to make it aesthetically compatible with the surrounding landscape and other walls located along SR 116. Cut slopes with a 2:1 gradient are proposed along the south side of SR 116.

Minor grade adjustments would be required on Hidden Lake Road as it approaches the intersection with SR 116. This would involve lowering Hidden Lake Road a couple of feet for a distance of approximately 130 feet so that it would match the new grade of SR 116. The driveway located north of SR 116 opposite of Hidden Lake Road would also be adjusted to match the new grade of SR 116. Some grading of the slopes along SR 116 in the vicinity of Hidden Lake Road is required to provide adequate sight distance.

Lighting is required for the roundabout in order to meet safety standards, and is expected to include an overhead (cobra-head style) light standard on each of the four quadrants of the roundabout, as well as lighting at each crosswalk around the perimeter of the roundabout.

Roundabout Landscaping

The center island of the roundabout would include a combination of architectural elements (including landscaping and hardscape, such as boulders). Caltrans, in cooperation with the County, would develop a detailed landscaping plan in final design, after community input is considered. Landscaping elements within the circle not only provide aesthetic benefits, but also serve to make the intersection more conspicuous and provide a visual barrier to reduce speeds within the circle and prevent vehicles from traveling across the circle. Selection of the center island landscaping would need to take into consideration maintenance issues, community identity, traffic issues (such as sight distance), cost, and safety. Items that would attract
pedestrian traffic to the center island, such as benches or monuments with small text, would be avoided for safety reasons.

Right-Of-Way Needs

The project would use property for which the County has existing slope and road easements. Portions of the easements required for the project would be acquired in fee. In addition, the project requires right-of-way from the parcels located at the northwest, northeast and southeast quadrants of the intersection. The project would also require minor amounts of right-of-way from parcels at the southwest corner of the intersection of SR 116 and Hidden Lake Road, and from parcels located across SR 116 from Hidden Lake Road.

Property Access Modifications

Due to the necessary length of the splitter island on the north leg of the roundabout, the existing Rotten Robbie gas station driveway on Mirabel Road would become right in and right out only.

To minimize the effect on traffic operations of the roundabout by vehicles making a left turn from eastbound SR 116 into the south driveway of the Rotten Robbie gas station, a “Keep Clear” pavement marking would be placed on westbound SR 116 at the south entrance of the Rotten Robbie gas station, just east of the roundabout. This would discourage vehicles queued at the westbound SR 116 approach from blocking the entrance to the gas station. In addition, a sign prohibiting left turns during weekday a.m./p.m. peak periods facing eastbound traffic on SR 116 would be placed on the splitter island, just west of the aforementioned south driveway.

Utility Relocations

Both overhead (electrical, cable television, telephone) and underground (electrical, gas, water, sewer, telecommunications) are located in the project area. Relocation of utilities would be required, including several overhead poles located north and south of SR 116 and on Mirabel Road. Overhead utilities would be moved from their existing location at the top of the road cuts to their location at the top of the new retaining wall or road cut, or possibly underground along the new shoulder of SR 116. Underground utilities would be moved from their current location under the existing roadway to beneath the new roadway.

Storm Water Collection and Treatment

The project includes construction of storm water treatment features in order to offset the addition of hardscape (paved surfaces) created by the project. These include bioswale(s) along SR 116 west of Hidden Lake Road, tree well filter inlets at the top of the retaining wall by the Westside Center parking lot, and a bioswale within the County’s roadway easement south of the fourth leg of the roundabout.

Staging Location

The contractor may use a portion of the County’s 60-foot wide roadway easement extending 200 feet south of the end of the roundabout fourth leg as a primary staging area for equipment, materials, and temporary soils storage. A portion of the privately-owned undeveloped parcel located to the southeast of the SR 116/Mirabel Road intersection (Assessor Parcel Number 084-031-069) could potentially be used for staging as well. However, any use of this land would require prior approval of the property owner and would be negotiated directly between the
construction contractor and the owner. The contractor may negotiate the use of additional paved staging areas directly with private property owners.

Excavation for the new roadway would create a surplus of soil. Soils would be hauled off-site for disposal at a facility permitted to accept them.

Construction Sequencing and Traffic Handling

Following is a general overview of the tentative construction sequencing. The project would be constructed in multiple stages in order to limit lane closures on SR 116 and Mirabel Road, and to maintain access to Hidden Lake Road. The detailed draft Stage Construction plans are included in Appendix C. In general, two-foot shoulders would be provided on SR 116. Access to private driveways would be maintained. Construction is expected to take approximately 15 months.

During the first stage, traffic would remain on the existing SR 116. Following relocation of utilities on the south side of the road, the area to the south of the existing lanes would be excavated to the depth of the new roadway and roundabout. Temporary retaining walls would be required to support the vertical excavation. Roadway cut-slopes would be constructed on the south side of the proposed alignment. Once excavation is complete and the temporary retaining wall is in place, new pavement for the southern SR 116 lanes would be placed, pavement for the southern half of the roundabout would be constructed, and new pavement for the southern leg of the roundabout would be placed. Additional temporary pavement would be installed beyond the edge of the permanent lane location. The new permanent and temporary paving would be used as a traffic detour during later stages. Temporary barriers and striping for traffic control would be installed.

During the next stages, temporary pavement and a temporary detour would be constructed at the SR 116/Hidden Lake Road intersection to allow grade adjustments and sight distance improvements to be constructed at the intersection. Some work during these stages would require short duration single lane closures with traffic control (including at night) on SR 116.

Next, traffic would be shifted south from the existing SR 116 to the traffic detour, and the SR 116/Mirabel Road intersection would be shifted south of its current location. Driveways across from Hidden Lake would be adjusted to the final grades. The, the existing SR 116 pavement would be removed. The area beneath the existing SR 116 alignment would be excavated down to the depth of the proposed new roadway and temporary retaining wall would be removed. Permanent retaining walls would be constructed along the north side of the roadway. New pavement for the northern SR 116 lanes and northwest portion of the roundabout would be constructed.

In the next stages, the shopping center and gas station driveways would be adjusted to grade (one driveway to the gas station would remain open at all times), followed by the northeast quadrant of the roundabout. The SR 116 lanes would be shifted to their final alignment, remaining areas of curb, gutter and sidewalk would be constructed, and areas of temporary pavement would be removed. Finally, the roundabout center island and splitter islands would be constructed.
1.4.2 No-Build Alternative

If the No Build Alternative is chosen, no improvements to SR 116 would be implemented and the intersection with Mirabel Road would remain in its existing configuration. Analysis of the No Build Alternative in this document includes what would reasonably be expected to occur in the foreseeable future if the project is not constructed. The No-Build Alternative is examined as a basis for comparison between the project and not building the project. It is anticipated that congestion would continue to increase if the project is not built.

1.4.3 Alternatives Considered but Eliminated from Further Discussion

1.4.3.1 Signalized Intersection

An alternative was considered to install a signal at the SR 116/Mirabel Road intersection, add a dedicated left turn lane on SR 116 for eastbound traffic turning onto Mirabel Road, and increase stopping sight distance by lowering the existing roadway over the crest of the hill west of the intersection. SR 116 would be widened to accommodate two 12-foot through lanes (one in each direction), one 12-foot turn lane, and two eight-foot shoulders. The turn lane would extend back to Hidden Lake Road. Approximately two thirds of the lane would provide storage for the left turn lane onto Mirabel Road, and the remaining third would provide a left turn lane from westbound SR 116 onto Hidden Lake Road.

As part of the signalization, three sets of design criteria were evaluated: a 35 mph design speed, a 40 mph design speed, and a 45 mph design speed. The existing posted speed limit is 35 mph. The Highway Design Manual recommends the design speed be five to ten mph greater than the posted speed. A 35 mph design speed would have required lowering the speed limit by five to ten mph in order to meet sight distance requirements and was eliminated by the project development team. The 40 mph design speed criteria was retained because it met sight distance standards while reducing right-of-way and environmental impacts. The 45 mph design speed was eliminated by the project development team because it required a deeper road cut that would result in higher costs, increased right-of-way requirements, and increased environmental impacts, including tree removal.

Following development of the signalized intersection alternative, the County was contacted by citizens of Forestville interested in a roundabout alternative. The 40 mph design criteria signalized intersection alternative and a roundabout alternative were presented at a public meeting in Forestville on February 26, 2009. The project development team considered verbal and written comments received at the meeting.

The signalized intersection alternative was eliminated from consideration based on the following:

- Improved capacity and safety benefits associated with a roundabout.
- Potentially higher emissions for a signalized intersection compared to a roundabout based on a higher number of stopping/starting movements at the intersection.
- The signalized intersection would result in impacts to roadside ditches west of Hidden Lake Road - potential Waters of the State. These impacts would not occur with the roundabout.
- There would potentially be more traffic noise associated with the signalized intersection than a roundabout based on a higher number of stopping/starting movements at the...
intersection and travel lanes being shifted closer to several residences west of Hidden Lake Road.

- The aesthetics of signal poles and wires associated with the signalization project were viewed negatively by some members of the public.
- Construction costs for the signal alternative are higher than the roundabout based on preliminary estimates prepared when the roundabout was carried forward for environmental review.

A majority of those who submitted comments at the public meeting preferred the roundabout alternative to the signal.

### 1.4.3.2 Four Way Stop

Based on a comment from a member of the public, traffic operations for the installation of all-way stop signs were analyzed. The analysis assumed that the fourth leg of intersection was in place to account for the development of the property at the southwest quadrant of the intersection. In the year 2030, a 4-way stop would operate at an unacceptable Level of Service (LOS F). In addition, installation of a four-way stop without other improvements would not address sight distance. Therefore, a 4-way stop was eliminated from consideration.

### 1.5 Project Funding, Estimated Cost, and Schedule

The project is funded by a combination of sources: Measure M funds, Countywide traffic mitigation fees, quarry expansion mitigation fees and Proposition 1B- Local Street and Road, Congestion Relief, and Traffic Safety Account funds. No federal funding is proposed for the project.

The preliminary capital cost estimate for the project, which consists of right-of-way and construction costs, is $7,029,000. Project construction is anticipated to begin in summer of 2013.

### 1.6 Permits and Approvals Needed

The following approvals are required:

The Sonoma County Board of Supervisors will consider whether to fund and approve the project.

Applications/notifications would be submitted to the State Water Resources Control Board (SWRCB) pursuant to the National Pollutant Discharge Elimination System (NPDES) permit during final project design.
Chapter 2 - AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

This chapter describes the environmental resources of the project area and how the resources would be impacted by the project alternatives. This chapter also discusses recommended avoidance, minimization and/or mitigation measures to reduce impacts of the project. The chapter addresses issues of concern pursuant to the California Environmental Quality Act (CEQA) and provides the basis for responses to the CEQA Checklist form. Please see Appendix A for the CEQA checklist.

As part of the scoping and environmental analysis conducted for the project, the following environmental issues were considered, but no adverse impacts were identified. Consequently, these issues will not be discussed further.

- Coastal Zone- The project is not located within the Coastal Zone.
- Hydrology and Floodplains- The project is not located within or adjacent to a floodplain or a flood hazard area as identified on the Federal Emergency Management Administration’s Flood Insurance Rate Maps. The project would not impact floodplains or watercourses, or substantially alter hydrology.
- Wild and Scenic Rivers- There are no designated Wild and Scenic Rivers in or near the project limits.

The remainder of this chapter covers environmental issue areas that require further consideration or discussion.


2.1 Human Environment

2.1.1 LAND USE

2.1.1.1 Existing and Future Land Use

Information in this section was obtained from visits to the project site, aerial photograph review, the Sonoma County General Plan 2020, the Sonoma County Zoning Ordinance, and planning files at the Sonoma County Permit and Resource Management Department (PRMD).

Regulatory Setting

Land use in the project area is governed by the Sonoma County General Plan 2020 and the Sonoma County Zoning Regulations. Table 3 lists general plan land use designations and zoning for parcels adjacent to the project.

Table 3. Land Use and Zoning of Adjacent Parcels

<table>
<thead>
<tr>
<th>Assessor Parcel Number</th>
<th>General Plan Land Use Designation</th>
<th>Zoning*</th>
</tr>
</thead>
<tbody>
<tr>
<td>083-130-081</td>
<td>Limited Commercial</td>
<td>C1 SD SR</td>
</tr>
<tr>
<td>083-090-085</td>
<td>Limited Commercial</td>
<td>C1 SD SR</td>
</tr>
<tr>
<td>083-090-079</td>
<td>Limited Commercial</td>
<td>LC SR</td>
</tr>
<tr>
<td>083-090-055</td>
<td>Limited Commercial</td>
<td>LC SR</td>
</tr>
<tr>
<td>083-090-056</td>
<td>Limited Commercial</td>
<td>LC SR</td>
</tr>
<tr>
<td>083-080-001</td>
<td>Limited Commercial</td>
<td>PC B6 1 SD SR</td>
</tr>
<tr>
<td>084-031-069</td>
<td>Urban Residential 1 unit/acre</td>
<td>PC B6 1 SR</td>
</tr>
<tr>
<td>084-031-072 (parcel has split zoning)</td>
<td>Urban Residential 1 unit/acre/Limited Commercial</td>
<td>RR B7 SR/AS B7</td>
</tr>
<tr>
<td>084-031-050</td>
<td>Rural Residential 2-ac density</td>
<td>AR B6 2 SR</td>
</tr>
<tr>
<td>083-130-008</td>
<td>Rural Residential 2-ac density</td>
<td>AR B6 2 SR</td>
</tr>
<tr>
<td>083-130-053</td>
<td>Rural Residential 2-ac density</td>
<td>AR B6 2 SR</td>
</tr>
</tbody>
</table>

*C1= Neighborhood Commercial District, SD= Scenic Design Combining District, SR= Scenic Resources Combining District, LC= Limited Commercial District, PC= Planned Community District, RR= Rural Residential, AS= Agricultural Services, AR= Agriculture and Residential District, R1= Low Density Residential District, B= B Combining Districts specify residential density and/or minimum parcel or lot size for a particular parcel, lot or area.
Affected Environment

Figure 3 shows land uses in the project vicinity, along with general plan land use designations for the area. The intersection of SR 116 and Mirabel Road is located at the west end of the community of Forestville. To the northeast of the intersection, existing land uses consist of the Rotten Robbie gas station (with entrances on both SR 116 and Mirabel Road) and small commercial establishments along SR 116. Forestville School is located east of the project limits on SR 116.

Uses northwest of the intersection include Westside Center (a small commercial park accessed from Mirabel Road, with a mix of professional offices, restaurants, retail, and a post office), transitioning to rural residential development along SR 116 further west.

Undeveloped land zoned as a “planned community district” is located to the southeast of the intersection. An application has been approved by the County to develop these parcels (totaling 8 acres). This development, the Forestville Square project, would consist of mixed commercial, residential, and open spaces uses. However, project development is uncertain at this time, due to a change of ownership of the parcels. The parcels to the southwest of the intersection are zoned “residential” and “agricultural services district”. The County has approved an 11 lot subdivision (the “Crinella Subdivision”) for these parcels (totaling 60 acres). Some of the land is currently planted in vineyard. Existing single family residences are located further west along SR 116 and Hidden Lake Road. Two hard-rock quarries are located west of the project limits on SR 116.

Existing land use to the north of the project limits on Mirabel Road is primarily residential. The Forestville Fire Protection District station and Forestville Water District building are located approximately 500 feet north of the intersection, and the Forestville Youth Park is located approximately 0.4 mile north of the intersection.
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Figure 3. Land Use
Environmental Consequences

The project would require small right-of-way acquisitions from several parcels, as well as construction on portions of parcels for which the County has existing slope or roadway easements. However, these minor acquisitions would not change the land use on the remainder of the parcels, nor conflict with their zoning or development potential.

The No Build Alternative would not impact existing and future land use.

Avoidance, Minimization and/or Mitigation Measures

None required.

2.1.1.2 Consistency with State, Regional and Local Plans and Programs

Regulatory Setting

Planning goals and policies for the study area are guided by the Sonoma County General Plan 2020 (General Plan) and the Sonoma County 2009 Comprehensive Transportation Plan (CTP).

The purpose of the General Plan is to express policies which guide decisions on future growth, development, and conservation of resources through the year 2020 in a manner consistent with the goals and quality of life desired by the county's residents. Primary goals of the Land Use element of the General Plan are to coordinate land use with growth policies, phase rural and urban growth with availability of adequate services, provide open space separation between cities/communities, create opportunities for diverse rural and urban residential environments, protect agricultural lands, and preserve scenic features and biotic resource areas.

The project was reviewed by the Comprehensive Planning Division of PRMD to identify relevant policies from the General Plan. The following policies were identified as relevant to the project:

Circulation and Transit Element (CT)

Policy CT-1j: 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.

Policy CT-3f: Implement safety improvements when and where problems arise. Where safety problems may result from a proposed project, require the safety improvements as a condition of approval.

Policy CT-5h: Carry out on an as needed basis projects that enhance traffic safety but do not significantly increase capacity, including but not limited to traffic control devices, curvature reduction, turn lanes at intersections, shoulder improvements, reconstruction and resurfacing.
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Public Safety Element (PS)

Policy PS-2m: Regulate development, water diversion, vegetation removal, grading and fills to minimize any increase in flooding and related damage to people and property.

Open Space and Resource Conservation Element (OSRC)

Policy OSRC-3h: Design public works projects to minimize tree damage and removal along Scenic Corridors. Where trees must be removed, design replanting programs so as to accommodate ultimate planned highway improvements. Require revegetation following grading and road cuts.

Policy OSRC-7o: Encourage the use of native plant species in landscaping. For discretionary projects, require the use of native or compatible non-native species for landscaping where consistent with fire safety. Prohibit the use of invasive exotic species.

Land Use Element

General Plan land use designations are listed in Table 3 above.

The Sonoma County 2009 Comprehensive Transportation Plan (CTP), adopted by the Sonoma County Transportation Authority, contains goals and objectives for improving mobility on Sonoma County’s streets, highways, and transit system and bicycle/pedestrian facilities, as well as reducing transportation related impacts. The four policy goals of the CTP are to maintain the existing system, relieve congestion, reduce greenhouse gas emissions, and plan for public health and safety.

Environmental Consequences

Sonoma County General Plan

The project is consistent with planning goals and policies in the General Plan. The project is consistent with the specific policies listed in the Affected Environment, as described below:

The project is consistent with Policy CT-1j because it is a circulation improvement project that would not disrupt the local neighborhood or larger community and Caltrans would consider community identity in selecting the landscaping for the center island of the roundabout. The project is also consistent with Policy CT-1j subject to compliance with the measures listed below for Policies OSRC-3h and OSCRC-7o.

The project is consistent with Policies CT-3f and CT-5h because it would improve the safety of the State Route 116/Mirabel Road intersection but would not significantly increase the capacity of SR 116.

The project is consistent with Policy PS-2m because the project site is not located near a stream and would not otherwise affect stream flow.

The project is consistent with Policies OSRC-3h and OSRC-7o subject to compliance with the following measures: 1) the project is designed and constructed so as to minimize damage to and removal of trees; 2) the project includes a replanting program for trees that are removed,
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

and the location of tree replanting is outside of the area of ultimate planned improvements to State Route 116 in the project area; 3) the project includes a plan for revegetation of areas disturbed by grading and other construction activities; and 4) native vegetation is used in landscaping the center island of the roundabout. The project has been designed to minimize tree removal; however removal of trees would still be required. See Avoidance, Minimization and Mitigation Measures below.

The No Build Alternative would be consistent with the General Plan, but would not provide the safety benefits described by Policy CT-5h.

Sonoma County 2009 Comprehensive Transportation Plan (CTP)

Intersection improvements at SR 116 and Mirabel Road (signalization and channelization) are identified in the CTP Appendix A project list. The project list identifies improvements needed to relieve congestion on the county roadway system. The roundabout project (in place of signalization) would be consistent with the policy goals of the CTP because it would reduce congestion, improve safety at the intersection, and improve access for pedestrians at the intersection. The roundabout may reduce greenhouse gas emissions by reducing idling.

The No Build Alternative would not provide safety, congestion or pedestrian improvements at the intersection.

Avoidance, Minimization and Mitigation Measures

Avoidance, minimization, and mitigation measures for tree removal are consistent with General Plan Policies OSRC-3h and OSRC-7o, and are described in Section 2.1.8, Visual/Aesthetics, Section 2.3.1, Natural Communities, and Section 2.3.6, Invasive Species. Revegetation of areas disturbed by grading, consistent with General Plan Policy OSRC-3h, is also described in Sections 2.1.8, and 2.2.1, Water Quality and Storm Water Run-off.

2.1.1.3 Parks and Recreational Facilities

Affected Environment

The only park within the project vicinity is the Forestville Youth Park, located on Mirabel Road approximately 0.4 mile north of the existing SR 116/Mirabel Road intersection. The Forestville Youth Park is owned and operated by a community non-profit group, but open to the public. It provides barbeque pits, picnic tables, a playground, a large meeting room and baseball and soccer fields.

The other recreational facility in the vicinity is the West County Trail, which primarily follows the former Petaluma and Santa Rosa Railway right-of-way and is managed by Sonoma County Regional Parks. The West County Trail connects with the Joe Rodota Trail in Sebastopol, forming a trail system that extends from Santa Rosa through Sebastopol to Forestville. The West County Trail is paved for walking, bicycle riding, and roller skating. Though identified as extending all the way to SR 116, the final approximately 650-foot section connecting to SR 116 has not been constructed. The County General Plan 2020 and Sonoma County Bicycle and Pedestrian Plan propose to extend the trail to the Forestville Youth Park.
Environmental Consequences

The project would not impact the Forestville Youth Park.

The West County Trail is proposed to be extended up to the SR 116/Mirabel Road intersection. The trail was proposed to be constructed in conjunction with the approved Forestville Square mixed-use development project at the southeast corner of the intersection and would have connected to the combined pedestrian/bicycle path that would be constructed as part of the roundabout project. At this time, the details and timeframe of the trail connection are unknown due to uncertainty of the future development of the parcel. A measure has been included below to ensure the project is compatible with future trail development.

The No Build Alternative would not impact parks or recreational facilities.

Avoidance, Minimization and/or Mitigation Measures

Caltrans and the Sonoma County Department of Transportation and Public Works (DTPW) would coordinate with the Sonoma County Regional Parks Department to ensure the roundabout design can accommodate a future West County Trail crossing at the SR 116 Intersection. Coordination would address issues including, but not limited to, grades, Americans with Disabilities Act (ADA) compliance, and signage.

2.1.2 GROWTH

Regulatory Setting

CEQA requires the analysis of a project’s potential to induce growth. CEQA guidelines, Section 15126.2(d), require that environmental documents “…discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment…”

Sonoma County plans for growth through development of its General Plan. The land use designations and policies in the General Plan direct how the county plans to grow. Land use designations are supported by zoning ordinances that contain enforceable requirements to regulate development (e.g., allowable uses, dwelling densities, minimum lot sizes, and setback requirements).

The Forestville urban service boundary contained in the General Plan influences how the community will grow by concentrating development around the urbanized area and limiting the extension of public services including water and sanitary sewer outside this area.

Affected Environment

The population in the unincorporated areas of Sonoma County is projected to grow at a rate of 0.88% per year through the year 2020. In the Russian River Planning Area, where Forestville is located, the population is expected to increase by 15% (or approximately 0.75% per year) from 16,462 in 2000 to 18,960 in 2020. (Sonoma County, 2008)
Land surrounding the project area is to a large extent already developed in commercial, urban residential, and rural residential uses, limiting the opportunities for growth. Undeveloped parcels exist to the south of the SR 116/Mirabel Road intersection.

**Environmental Consequences**

A tentative map for an 11-lot subdivision was approved by the County in 2007 for the land to the southwest of the proposed roundabout. If constructed, the subdivision would be located adjacent to the new fourth leg of the roundabout. Once the fourth leg is constructed, a private roadway from the 11-lot subdivision could be connected to it to provide access to the SR 116/Mirabel Road intersection. However, access for the subdivision could also be provided by connecting a private roadway to the existing intersection under an encroachment permit from Caltrans, as described in the subdivision project conditions of approval. Therefore, the development could be constructed regardless of whether the project is approved, and the project would not induce growth.

The Forestville Square mixed-use residential and commercial development was approved the County in 2010 for land to the southeast of the intersection, and if constructed, would also be adjacent to the fourth leg of the roundabout. However, the development would have its access from a driveway along the existing SR 116 (which could be constructed under a separate encroachment permit from Caltrans regardless of whether the roundabout project is constructed) and not the roundabout fourth leg.

The project would not provide access to any other undeveloped parcels. The County’s planned growth and land uses are not expected to change with or without the project. Therefore, while the project would be compatible with planned growth, it would not induce growth.

The No Build Alternative would not impact growth or induce growth.

**Avoidance, Minimization and/or Mitigation Measures**

None proposed.

### 2.1.3 FARMLANDS

**Regulatory Setting**

The Farmland Protection Policy Act (FPPA, 7 USC 4201-4209; and its regulations, 7 CFR Part 658) require federal agencies, such as FHWA, to coordinate with the Natural Resources Conservation Service (NRCS) if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Though the project is not federally funded, and therefore not subject to the FPPA, it provides a useful framework for evaluating impacts to farmland.

CEQA requires the review of projects that would convert Williamson Act Contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act
provides incentives to landowners through reduced property taxes to deter the early conversion of agricultural and open space lands to other uses.

CEQ’s definition of agricultural land includes Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Section 21060.1). According to the CEQA Checklist, CEQA analysis should consider whether a project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency) to non-agricultural use.

**Affected Environment**

Information in this section is based on a Farmland Conversion Assessment completed for the project (Sonoma County PRMD, 2012). The study identifies mapped farmland and existing agricultural uses, and evaluates impacts to the farmland from the project.

As stated in Caltrans’ Environmental Handbook Volume 4: Community Impact Assessment, “The intent of the California Department of Transportation is to avoid, whenever practical, locating public improvements within agricultural preserves or acquiring high quality agricultural land for transportation improvements.” This section presents a discussion of the agricultural resources in the project area.

As of 2008, Sonoma County had 30,815 acres of land designated as Prime Farmland, 17,251 acres as Farmland of Statewide Importance, 32,107 acres as Unique Farmland, and 780,045 acres as Farmland of Local Importance (California Department of Conservation, 2010).

There are no lands mapped as Prime Farmland or Farmland of Statewide Importance within the project limits. There are no lands under Williamson Act Contract within the project limits.

One parcel, 084-031-072, contains Unique Farmland within the project limits. Portions of parcels 084-031-069, 084-031-ROW, 083-130-008 and 083-130-053 are mapped as Farmland of Local Importance (California Department of Conservation, 2010). Farmland designations for parcels within and adjacent to the project limits are shown in Figure 4.

Unique Farmland is land which does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, that is currently used for the production of specific high economic value crops (as listed in the last three years of California Agriculture produced by the California Department of Food and Agriculture). It has the special combination of soil quality, location, growing season and moisture supply needed to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming methods. Examples of such crops may include oranges, olives, avocados, rice, grapes, and cut flowers. It does not include publicly owned lands for which there is an adopted policy preventing agriculture use (California Department of Conservation, 1992).

Farmland of Local Importance is land of importance to the local economy, as defined by each county's local advisory committee and adopted by its Board of Supervisors. Farmland of Local Importance is either currently producing, or has the capability of production, but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

Within the project limits, a portion of 084-031-072 is currently planted in wine grapes. The portions of the remaining parcels within the project limits are not currently in agricultural use. Sonoma County General Plan land use designations and zoning for these parcels are listed in
Table 4. All these zoning designations allow varying types and levels of agricultural uses, though agriculture is not considered the primary use (Sonoma County General Plan Policy LU-6d).

<table>
<thead>
<tr>
<th>Map ID</th>
<th>Assessor Parcel Number</th>
<th>Farmland Designation for Portion of Parcel Impacted By Project</th>
<th>General Plan Land Use Designation</th>
<th>Zoning*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>084-031-069</td>
<td>Farmland of Local Importance</td>
<td>Urban Residential 1 unit/acre</td>
<td>PC B6 1 SR</td>
</tr>
<tr>
<td>2</td>
<td>084-031-072</td>
<td>Unique Farmland</td>
<td>Urban Residential 1 unit/acre/Limited Commercial</td>
<td>RR B7 SR/AS B7**</td>
</tr>
<tr>
<td>3</td>
<td>083-130-008</td>
<td>Farmland of Local Importance</td>
<td>Rural Residential 2-ac density</td>
<td>AR B6 2 SR</td>
</tr>
<tr>
<td>4</td>
<td>083-130-053</td>
<td>Farmland of Local Importance</td>
<td>Rural Residential 2-ac density</td>
<td>AR B6 2 SR</td>
</tr>
<tr>
<td>5</td>
<td>084-031-ROW</td>
<td>Farmland of Local Importance</td>
<td>N/A</td>
<td>Roadway easement for Forestville Bypass</td>
</tr>
</tbody>
</table>

* SR= Scenic Resources Combining District, PC= Planned Community District, RR= Rural Residential, AS= Agricultural Services, AR= Agriculture and Residential District, B= B Combining Districts specify residential density and/or minimum parcel or lot size for a particular parcel, lot or area.
** Parcel has split zoning. The portion impacted by the project is zoned Rural Residential.
Figure 4. Mapped Farmland

(Sonoma County PRMD, 2012; California Department of Conservation, 2010)
Note: Map numbers correspond to Map ID numbers in Table 4
Environmental Consequences

The project would not impact Williamson Act Contracts, Prime Farmland, or Farmland of Statewide Importance.

The project would result in the direct conversion of 1.06 acres of Unique Farmland and 0.73 acres of Farmland of Local Importance to roadway uses, and the potential indirect conversion of an additional 0.30 acres of Unique Farmland (see Table 5 and Figure 5). Of the total 2.09 acres impacted, approximately 0.78 acres is currently planted in wine grapes, and the remaining 1.31 acres are not currently in agricultural production. A majority of the actively farmed area is located within an existing slope easement dedicated to the County of Sonoma.

Impacts to mapped farmland were evaluated using the United States Department of Agriculture (USDA) “Farmland Conversion Impact Rating” (Form AD 1006), which was completed in conjunction with the Natural Resource Conservation Service (NRCS). Form AD 1006 helps determine the impact the project may have on farmlands within the project area. Specific criteria are looked at by both the NRCS and the federal agency involved, including, but not limited to, soil productivity, water conditions, proximity to other urban and rural land uses, impacts on remaining farmland after the conversion, and indirect or secondary effects of the project on agricultural and other local factors. The NRCS must complete the land evaluation part of the form, and the federal agency must complete the site assessment portion. Each criterion has a set number of points it may be awarded. Once those points are added up, they are compared to the “threshold score” of 160 points created by the USDA. Sites receiving a total score of less than 160 need not be given further consideration for protection and no additional sites need to be evaluated under the FPPA (CFR 658.4 (c) (2)). The completed form may be found in Appendix E. The total site assessment rating for the project is 129, below the threshold score of 160.

Based on the score of 129, further protection from farmland conversion is not warranted. In addition, the size of the conversion represents a very small fraction (less than 0.01%) of the mapped farmland in the county, and a relatively small percentage of the overall size of the impacted parcels. Compensation to individual landowners for property impacts would be addressed and negotiated through the right-of-way process, as warranted. No mitigation is proposed.

The No Build Alternative would not impact farmlands.

Avoidance, Minimization and/or Mitigation Measures

None proposed.
### Table 5. Proposed Farmland Conversion

<table>
<thead>
<tr>
<th>Map ID Number (See Figure 4)</th>
<th>Assessor Parcel Number (APN)</th>
<th>Current Use(s) Adjacent to Project</th>
<th>Farmland Designation on portion of parcel affected by the Project</th>
<th>Parcel Size (acres)</th>
<th>Conversion Acreage</th>
<th>Area of Conversion Currently Planted with Crops (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Direct Conversion Of Mapped Farmland* (acres)</td>
<td>Indirect Conversion Of Mapped Farmland (acres)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1</td>
<td>084-031-069</td>
<td>Ruderal</td>
<td>Local Importance, Urban/Built Up Land</td>
<td>3.66</td>
<td>0.29***</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>084-031-072</td>
<td>Vineyard, farm road/buffer</td>
<td>Unique Farmland</td>
<td>43.67</td>
<td>1.06**</td>
<td>0.30</td>
</tr>
<tr>
<td>3</td>
<td>083-130-008</td>
<td>Driveway, residence, ruderal, orchard</td>
<td>Local Importance</td>
<td>10.00</td>
<td>0.03</td>
<td>N/A</td>
</tr>
<tr>
<td>4</td>
<td>083-130-053</td>
<td>Driveway, residence, landscaping</td>
<td>Local Importance, Urban/Built Up Land</td>
<td>2.00</td>
<td>0.02</td>
<td>N/A</td>
</tr>
<tr>
<td>5</td>
<td>084-031-ROW</td>
<td>Ruderal</td>
<td>Local Importance</td>
<td>1.75</td>
<td>0.39</td>
<td>N/A</td>
</tr>
</tbody>
</table>

|                             |                             |                                    |                                                               |                   | TOTAL Farmland of Local Importance Converted |                                                   |
|                             |                             |                                    |                                                               |                   | 0.73             | 0                                  | 0                                                  |
|                             |                             |                                    |                                                               |                   | TOTAL Unique Farmland Converted              |                                                   |
|                             |                             |                                    |                                                               |                   | 1.06             | 0.30                | 0.78                                               |
|                             |                             |                                    |                                                               |                   | TOTAL Farmland Converted                      |                                                   |
|                             |                             |                                    |                                                               |                   | 1.79             | 0.30                | 0.78                                               |

* Reported Right-Of-Way (ROW) acreages slightly overestimate actual impact to farmland since existing driveways were included in calculations.
** Within existing County slope easement
*** *Includes areas both within a County slope easement and proposed new ROW
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Figure 5. Farmland Impacts

LEGEND:
- Direct Conversion of Farmlands of Local Importance = 0.738 Acres
- Direct Conversion of Unique Farmland = 1.056 Acres
- Potential Indirect Conversion of Unique Farmlands = 0.297 Acres
- Area Currently Planted with Grape Vines = 0.780 Acres

State Route 116 at Mirabel Road Intersection Improvement Project
2.1.4 COMMUNITY CHARACTER AND COHESION

Regulatory Setting

Under CEQA, an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical changes to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project’s effects.

Affected Environment

According to the Sonoma County General Plan 2020, the community of Forestville remains essentially rural. The downtown commercial area provides primarily local serving commercial uses in keeping with the existing character and scale of the community. The residential areas consist predominantly of single family residences located north and south of SR 116.

Objective LU-15.4 of the Sonoma County General Plan 2020 addresses the community character of Forestville, as follows:

Maintain the "rural village" character of Forestville through design and development standards that support small scale development with substantial open space and native landscaping.

A public meeting was held in Forestville to hear community input on the project. Community members expressed interest in avoiding project features that would give the town an urbanized feeling.

Environmental Consequences

The project would not change existing community boundaries or divide neighborhoods, because it is the modification of an existing interchange. Connectivity for pedestrians to downtown Forestville would be improved by the project through installation of crosswalks. Therefore, community cohesion would not be adversely impacted.

In response to the public meeting, many community members commented that a roundabout would be more compatible with the small town character of Forestville than a signal alternative. However, impacts to community character could occur if the aesthetic features selected for the roundabout and center island landscaping are not in keeping with those desired by the community. A measure is included below to minimize this impact.

The community would experience temporary inconveniences from project construction activities, including noise, dust, intermittent traffic disruptions, and visual effects. These effects and appropriate avoidance and minimization measures are discussed in sections 2.2.6, Noise; 2.2.5, Air Quality; 2.1.7, Traffic and Transportation/Pedestrian and Bicycle Facilities; and 2.1.8, Visual/Aesthetics.
The citizens of Forestville hold an annual tree lighting celebration each year in the semi-paved/gravel area southeast of the SR 116/Mirabel intersection near the eastern project limits. The project would require minor widening and frontage improvements along SR 116 at this location, which could interfere with the tree lighting activities. A measure has been included below to avoid this impact.

The No Build Alternative would not impact community character or cohesion, but also would not improve pedestrian connectivity.

Avoidance, Minimization and/or Mitigation Measures

A landscaping plan addressing the center island landscaping, retaining wall texturing and landscaping, and cut-slope landscaping would be developed during the design phase. One or more public meetings would be held in the design phase, during which the public would be invited to comment on the proposed plan. The final plan would be provided to the community prior to implementation.

The Contractor would be required to avoid the tree lighting area between November 15 and January 1 and keep it free of obstructions during that period.

2.1.5 RELOCATIONS AND REAL PROPERTY ACQUISITION

Regulatory Setting

Caltrans’ Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 USC 2000d, et seq.). Please see Appendix D for a copy of the Caltrans’ Title VI Policy Statement.

Affected Environment

Some land would need to be acquired for the project from parcels containing a gas station, residences, a vineyard, the Westside Center (containing a mix of retail stores, services, and professional offices), and an undeveloped parcel. These parcels are described in more detail in Section 2.1.1.1., Existing and Future Land Use

Environmental Consequences

The project does not require relocation of any households or businesses, and does not require acquisition of entire properties. The project would require partial acquisition along property frontages on SR 116, Hidden Lake Road, and Mirabel Road, and conversion of areas of existing County easements to fee title. Temporary construction easements (TCEs) would be required
from some parcels in order to construct the project. Acquisitions and easements are listed in Table 6.

Table 6. Proposed Property Acquisitions

<table>
<thead>
<tr>
<th>Address</th>
<th>APN</th>
<th>Type of Property*</th>
<th>Type of Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>7001 Hwy 116, Forestville</td>
<td>083-090-079</td>
<td>Commercial</td>
<td>Partial &amp; TCE</td>
</tr>
<tr>
<td>None, Mirabel Road, Forestville</td>
<td>083-090-085</td>
<td>Commercial (undeveloped)</td>
<td>Partial &amp; TCE</td>
</tr>
<tr>
<td>6484 Mirabel Rd, Forestville</td>
<td>083-130-081</td>
<td>Commercial</td>
<td>Partial</td>
</tr>
<tr>
<td>6701 Hwy 116, Forestville</td>
<td>083-090-055</td>
<td>Commercial</td>
<td>TCE</td>
</tr>
<tr>
<td>6740 Hwy 116, Forestville</td>
<td>084-031-072</td>
<td>Agricultural</td>
<td>Partial</td>
</tr>
<tr>
<td>6772 Hwy 116, Forestville</td>
<td>084-031-069</td>
<td>Commercial (undeveloped)</td>
<td>Partial &amp; TCE</td>
</tr>
<tr>
<td>7050 Hwy 116, Forestville</td>
<td>084-031-049</td>
<td>Single Family Residential</td>
<td>Partial</td>
</tr>
<tr>
<td>8444 Hidden Lake Rd, Forestville</td>
<td>084-031-050</td>
<td>Single Family Residential</td>
<td>Partial &amp; TCE</td>
</tr>
<tr>
<td>6935 Hwy 116, Forestville</td>
<td>083-130-008</td>
<td>Single Family Residential</td>
<td>Partial</td>
</tr>
<tr>
<td>6821 Hwy 116, Forestville</td>
<td>083-130-053</td>
<td>Single Family Residential</td>
<td>Partial</td>
</tr>
</tbody>
</table>

*For undeveloped properties, the property type listed is based on the Sonoma County General Plan land use designation. Otherwise, property type is based on existing use.

**Residential Impacts**

Residential acquisitions may impact landscaping, fencing and open/lawn areas along property frontages. No occupied structures are located within the acquisition areas.

**Business Impacts**

The project does not require relocation of businesses. Property that would be acquired from the Westside Center is limited to a portion of a retaining wall and landscaping located along the property frontage. The project would not impact buildings or parking for the property. The driveway would be modified only to match the new elevation of Mirabel Road. A measure is included below to ensure access is maintained during construction.

The project would require acquisition of a small portion of the landscaped area from the Rotten Robbie gas station. The project would also modify access to the gas station. The Mirabel Road entrance would be closed temporarily for a short time during construction, and would be converted to a right turn in/right turn out only driveway once the roundabout is complete, due to the required length of the splitter islands. Left turns into the gas station from eastbound SR 116 would be prohibited during weekday a.m./p.m. peak periods in order to minimize the effect on traffic operations of the roundabout. During peak periods, eastbound vehicles would still be able to access the gas station by turning north at the roundabout and using the Mirabel Road entrance. Vehicles traveling westbound on SR 116 could queue up and block the Rotten Robbie entrance on SR 116. A measure is included below to minimize this impact.

One parcel currently in agricultural production would be affected by the project. The area that would be directly affected by the project is within an existing County slope easement, a portion of which would be acquired in fee title, and a portion of which would remain a slope easement. The affected area is currently planted in grape vines, which would be removed by the project.
An additional area would be affected should the property owner wish to re-establish the buffer/farm vehicle access that is currently located between the fence and the first row of vines, as described in Section 2.1.3, Farmlands. The project would not require relocation of any buildings on the parcel.

Acquisition from the undeveloped parcels at the southeast corner of the intersection would be limited to small areas along the property frontage and would not future development of the property.

Avoidance, Minimization and/or Mitigation Measures

A “Keep Clear” pavement marking would be installed on westbound SR 116 at the south entrance of the Rotten Robbie gas station, just east of the roundabout. This would discourage vehicles queued at the westbound SR 116 approach from blocking the entrance to the gas station.

Property acquisition would be conducted in compliance with Title VI of the Civil Rights Act (42 U.S. Code 2000d, et seq.).

Compensation would be negotiated with all affected property owners during the right-of-way acquisition phase.

Access to all properties would be provided during construction.

2.1.6 UTILITIES / EMERGENCY SERVICES

2.1.6.1 Utilities

Affected Environment

There are multiple utility lines within the project limits. Overhead utility poles are located along both sides of SR 116 west of Mirabel Road, along the east side of Mirabel Road, and along the east side of Hidden Lake Road. The overhead poles carry a combination of electrical lines, telephone lines, and cable television lines depending on location. Underground utilities include electrical lines, telecommunications lines, a gas line, and Forestville Water District water and sewer lines. There is also an electrical vault located at the south side of the SR 116/Mirabel Road intersection.

Environmental Consequences

Underground utilities (gas, electrical, telecommunications, water, and sewer), several utility poles (with a combination of electrical, cable television, and telephone, depending on location), and the electrical vault south of the existing intersection would need to be relocated for the project. Utility relocations would be accommodated within the existing and new right-of-way. Overhead utilities would be moved from their existing location at the top of the road cuts to their location at the top of the new retaining wall or road cut, or possibly underground along the new shoulder of SR 116. Underground utilities would be moved from their current location along existing SR 116 to their new location along the new roadway.
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

The No Build Alternative would not impact utilities.

Avoidance, Minimization and/or Mitigation Measures

Caltrans would coordinate relocation work with the affected utility companies to minimize disruption of services to customers in the area during construction.

2.1.6.2 Emergency Services

Affected Environment

Fire protection for the project area is provided by the Forestville Fire Protection District (FFPD). The FFPD also provides emergency medical response. The district has one station located at 6554 Mirabel Road. The Sonoma County Sheriff's Department provides law enforcement services to unincorporated areas of the county, including the project area. The California Highway Patrol provides law enforcement along all state routes within California, including SR 116 within the project vicinity, and assists local governments during emergencies when requested.

Environmental Consequences

The roundabout has been appropriately sized to ensure safe passage of emergency service vehicles, including fire engines. It has been sized for the 65-foot long California Legal Design Vehicle. Fire engines (and other large vehicles) can cross onto the center truck apron of the roundabout when completing turns.

In order to control vehicle speeds and vehicle queuing approaching the roundabout, the roadway width between the sidewalk curb and the splitter island is limited. These limited widths may not allow room for an emergency vehicle to pass other vehicles queued to enter the roundabout, and could result in some increase to emergency response times. According to FHWA’s “Roundabouts: An Informational Guide,” drivers should be educated how to properly respond when an emergency vehicle is approaching the roundabout in order to minimize potential delays to emergency response (NCHRP, 2010). The guide includes following advice for drivers:

Do not enter a roundabout when an emergency vehicle is approaching on another leg. This will allow traffic within the roundabout to clear in front of the emergency vehicle. When an emergency vehicle is approaching, be sure to proceed beyond the splitter island of your approach leg to ensure the emergency vehicle has adequate room to turn and exit the roundabout at any approach.

A measure for driver education has been included below to minimize delays to emergency response.

The project does not affect the availability of or need for emergency services.

In general, two-way through traffic would be maintained on SR 116 and Mirabel Road during project construction to the maximum extent feasible. However, during some stages of construction, single lane closures with flagged traffic control would be required at times on
Mirabel Road and on SR 116 in the vicinity of Hidden Lake Road (See Section 1.4.1 and Appendix C). Construction delays could affect emergency vehicle response.

The No Build Alternative would not impact emergency services operations.

**Avoidance, Minimization and/or Mitigation Measures**

A public education campaign would be implemented to inform area drivers and residents about the new roundabout, and would include information on how drivers should respond when emergency vehicles are approaching the roundabout. The campaign would include measures such as:

- Hold public meetings prior to opening the roundabout to traffic and/or give presentations at local organization meetings;
- Prepare news releases detailing what motorists and pedestrians can expect during and after construction; and
- Distribute an informational brochure to residents explaining how to navigate roundabouts (both in a vehicle and as a pedestrian).

A Transportation Management Plan would be prepared and implemented to address traffic handling and minimize delays during construction.

Local emergency services would be notified prior to construction informing them of the proposed construction schedule. The Contractor would be required to maintain access to properties at all times.

### 2.1.7 TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES

#### 2.1.7.1 Motor Vehicle Traffic

**Affected Environment**

Traffic analysis for the project was conducted as part of the Roundabout Report of Conceptual Approval (Caltrans, 2009), Roundabout Report of Conceptual Approval Supplemental Memo (Caltrans, 2011), and Draft Project Study Report/Project Report (Caltrans, 2013).

**Operations**

As described in Section 1.2, Purpose and Need, and shown in Table 7 below, the stop-controlled left turn from southbound Mirabel Road onto eastbound SR 116 operates at LOS E during the weekday a.m. peak hour (HDR, 2012). The average daily traffic (ADT) on SR 116 (year 2005) is 8,813 vehicles per day (SCTA, 2011).
Table 7. Existing and Future Traffic Levels of Service

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Existing Conditions (Year 2006)</th>
<th>2035 No Build Conditions</th>
<th>2035 Build Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A.M. Peak</td>
<td>P.M. Peak</td>
<td>A.M. Peak</td>
</tr>
<tr>
<td></td>
<td>Delay</td>
<td>LOS</td>
<td>Delay</td>
</tr>
<tr>
<td>Existing (T intersection, Mirabel stop-controlled)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36.3</td>
<td>E</td>
<td>17.2</td>
</tr>
<tr>
<td>Roundabout with 3 legs operating, no Forestville Bypass</td>
<td>N/A</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 leg roundabout with Forestville Bypass</td>
<td>N/A</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: HDR, 2012; Caltrans, 2013; Caltrans, 2011.
Delay is in seconds per vehicle.
Delay and LOS for the existing unsignalized T-intersection is based on the worst movement.
Delay for the 3-leg and 4-leg roundabouts is the average delay for all vehicle movements.
LOS for the 3-leg and 4-leg roundabouts is shown as the average LOS for all movements/LOS for the worst movement.

Safety

As described in the project Purpose and Need (Section 1.2), the accident rate in this 0.3 mile segment of SR 116 for a three year period in 2008-2011 was below the statewide average for similar facilities. There were three accidents on this segment, all of which were non-injury accidents. Two were at the intersection, both involving vehicles waiting to make a left turn onto Mirabel Road from SR116. One was a broadside collision, and one was a rear-end collision. The Draft Initial Study analyzed the three-year period from January 1, 2005 through December 31, 2007. The overall accident rate on SR 116 for this time period was greater than the statewide average for similar facilities. During this period, there were 13 accidents on this segment of SR 116, seven of which were at the SR116/Mirabel Road intersection. All seven were broadside collisions, with the southbound Mirabel Road motorists failing to yield. Two of the seven were injury accidents.

Oversized Vehicles

Currently, extra-legal (oversized) vehicles transporting heavy construction equipment use the SR 116/Mirabel Road intersection several times a year to access quarries located west of Forestville. The oversize vehicle makes two movements: 1) East to North (from the quarry) and 2) South to West (to the quarry). These 9-axle extra-legal vehicles require a transportation permit from Caltrans to operate on SR 116. The vehicle size requires that the existing intersection be shut down under traffic control in order for the vehicle to safely complete the turn from one roadway to the other.

Environmental Consequences

This section discusses impacts during operations. Construction impacts are discussed in Section 2.1.7.5.
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Operations

The project would improve operations at the SR 116/Mirabel Road intersection. The approximate ADT for 2035 on SR 116 is 10,620 vehicles per day. The traffic operation of the single-lane roundabout for year 2035 was evaluated for two scenarios: one as a four leg roundabout with the Forestville Bypass in place, and one as a three leg roundabout without the bypass. The roundabout would operate at LOS A/B in both the a.m. and p.m. peak hours, with delays of up to 15 seconds per vehicle (see Table 7, above) for both scenarios, compared to LOS E (a.m. peak) and C (p.m. peak) for current conditions. (Caltrans, 2011)

Vehicles making a left turn into the south driveway of the Rotten Robbie gas station from eastbound SR 116 could queue up if traffic on westbound SR 116 is blocking the driveway, or during peak hours when traffic volumes are higher, thus affecting the roundabout operations. Pavement markings and turning restrictions have been included in the project design to minimize the impacts to SR 116 as described below under “Avoidance, Minimization and/or Mitigation Measures.”

A traffic analysis shows that the existing intersection would operate poorly (LOS F) in the design year of 2035 under the No Build alternative. The analysis reveals that the average delay during the AM and PM peak hours would exceed 10 minutes per vehicle for two different “no-build” conditions: 1) If the intersection remains stop-controlled on Mirabel Road, as it is today and 2) If the intersection is changed to an all-way stop (Caltrans, 2013).

Safety

The project would improve sight distance at the intersection, and may provide other safety benefits as well. A 2007 study by the National Cooperative Highway Research Program (NCHRP Report 572) studied 55 sites throughout the U.S. where various traditional intersections were converted to modern roundabouts. The study found an overall reduction in vehicular crashes of 35% and injury crashes of 76% after conversion to a roundabout. For two-way stop-controlled rural intersections (the configuration that most closely matches the existing SR 116/Mirabel Road intersection), overall crashes were reduced by 72%, and injury crashes were reduced by 87% following conversion to single-lane roundabouts.

At modern roundabouts, the geometric design features ensure that vehicle speeds are low, reducing the severity of crashes, and giving drivers more time to react to other drivers and pedestrians. Roundabouts have fewer points of vehicle-to-vehicle conflict. Crossing conflicts are eliminated, and vehicle entry points to the roundabout are angled. Both of these features serve to prevent the broadside-type accident currently experienced at the existing SR 116/Mirabel Road intersection.

The No Build Alternative would not improve intersection safety.

Oversize Vehicles

SR 116 through Forestville is not on the National Truck Network, but on the California Legal Advisory Route. Therefore, the roundabout has been designed for the 65-foot long California Legal Design Vehicle. The roundabout can accommodate regular quarry trucks, fire trucks and other legal vehicles without special traffic control, as part of normal intersection operations.
As with the existing condition, passage of extra-legal (oversize) vehicles through the roundabout, such as trucks transporting heavy-duty quarry equipment, would require a transportation permit from Caltrans and temporary closure of the intersection. Design features have been included in the project as described below under “Avoidance, Minimization, and/or Mitigation Measures” to allow oversize vehicles to complete a wrong way (left turn) movement through the intersection from eastbound SR 116 to northbound Mirabel Road under traffic control.

As an alternative, oversized vehicles could opt to use River Road to SR 116 to access the quarries. An additional alternative would be the use of a vehicle with rear-steering, which can negotiate the normal roundabout turning movements without encroaching onto the splitter islands.

Under the No Build Alternative, oversized vehicles would continue to travel through the existing intersection under traffic control, as they do currently.

Avoidance, Minimization and/or Mitigation Measures

To minimize the effect on traffic operations of the roundabout by vehicles making a left turn from eastbound SR 116 into the south driveway of the Rotten Robbie gas station, a “Keep Clear” pavement marking would be included on westbound SR 116 at the south entrance of the Rotten Robbie gas station, just east of the roundabout. This would discourage vehicles queued at the westbound SR 116 approach from blocking the entrance to the gas station. In addition, a sign prohibiting left turns during weekday a.m./p.m. peak periods facing eastbound traffic on SR 116 would be placed on the splitter island, just west of the aforementioned south driveway.

Extra-legal vehicles would be required to obtain a transportation permit from Caltrans prior to using the intersection. The intersection would be temporarily closed and a pilot vehicle would be used to stop traffic so that the extra-legal vehicle can pass through the intersection. Extra-legal vehicles traveling from eastbound SR 116 to northbound Mirabel Road would make a wrong-way (left turn) movement through the roundabout, from eastbound SR 116 onto northbound Mirabel Road. A right turn from Mirabel Road onto SR 116 can be completed by encroaching onto the splitter island, without encroachment into the opposite lanes. The roundabout would be designed so that the extra-legal vehicle can complete the turns by passing over a portion of the splitter island and the truck apron. Roundabout signs would be placed in locations that would not interfere with these turning movements.

2.1.7.2 Mass Transit

Affected Environment

Sonoma County Transit’s Russian River Area/Santa Rosa bus line runs along SR 116 from Sebastopol and turns up Mirabel Road. There are bus stops in both directions along Mirabel Road approximately 250 feet north of the intersection (just north of the gas station and Westside Center). There are also stops in both directions located at the intersection of Second Street and SR 116.
Environmental Consequences

The bus stop at SR 116 and Second Street would be unaffected by the project. The stops on Mirabel Road may need to be relocated a short distance temporarily during construction. The measure below would minimize impacts to transit users.

The No Build Alternative would not impact transit operations.

Avoidance, Minimization and/or Mitigation Measures

Caltrans would coordinate the relocation of the bus stops with Sonoma County Transit in advance of construction.

2.1.7.3 Pedestrian Traffic

Regulatory Setting

Caltrans, as assigned by FHWA, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 CFR 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

Caltrans is committed to carrying out the 1990 ADA by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

Affected Environment

Because of local businesses, parks and schools in and around downtown Forestville, pedestrians are prevalent east and north of the existing SR 116/ Mirabel Road intersection. Sidewalks exist along the north side of SR 116 near the intersection, and along both sides of Mirabel Road bordering the gas station and shopping center. Based on pedestrian counts at the intersection (Crane Transportation Group, 2006), very few pedestrians cross at the intersection. There are currently no designated crosswalks. West of the intersection, pedestrian use is limited because SR 116 has no sidewalk and the shoulders are narrow. Residents use an existing informal footpath at the top of the road cut-slope to reach the commercial area of Forestville.

Environmental Consequences

The project would improve pedestrian access at the intersection by providing crosswalks and a raised sidewalk/pedestrian pathway separated from the travel lanes by a buffer strip.
Single-lane roundabouts also provide safety benefits to pedestrians, as described in FHWA’s Roundabouts: An Informational Guide (NCHRP, 2010):

*For pedestrians, the risk of being involved in a severe collision is lower at roundabouts than at other forms of intersections due to the slower vehicle speeds. Likewise, the number of conflict points for pedestrians is lower at roundabouts than at other intersections, which can lower the frequency of crashes. The splitter island between entry and exit also allows pedestrians to resolve conflicts with entering and exiting vehicles separately.*

Pedestrians only have to cross one lane of traffic at a time, and vehicles are typically traveling at speeds of 15-20 mph.

Though roundabouts provide safety benefits for pedestrians, a lack of familiarity with how roundabouts operate could initially lead to conflicts between vehicles and pedestrians. Minimization measures are included below to reduce this potential.

The No Build Alternative would not alter existing pedestrian activity at the intersection. It would also not provide the benefits of crosswalks that the project provides.

**Avoidance, Minimization and/or Mitigation Measures**

A public education campaign would be implemented to inform area drivers and residents about the new roundabout. The campaign would include measures such as:

- Hold public meetings prior to opening to the roundabout to traffic and/or give presentations at local organization meetings;
- Prepare news releases detailing what motorists and pedestrians can expect during and after construction;
- Distribute an informational brochure to residents explaining how to navigate roundabouts (both in a vehicle and as a pedestrian); and
- Install signing that warns of changed traffic patterns.

The Sonoma County Bicycle and Pedestrian Advisory Committee (SCBPAC) has reviewed the preliminary project design (see Appendix I). Caltrans would coordinate with the BPAC during the design phase.

**2.1.7.4 Bicycle Traffic**

**Affected Environment**

SR 116 in the project area is designated a proposed Class II bikeway in the Sonoma County Bicycle and Pedestrian Plan (2010) and Sonoma County General Plan 2020. Mirabel Road is also designated a proposed Class II bikeway in these plans.
The West County Trail bike path is described in Section 2.1.1.3, Parks and Recreational Facilities.

**Environmental Consequences**

The project would not conflict with the bikeway designations on Mirabel Road and SR 116. Bicyclists would have two options when approaching the roundabout based on their level of experience and comfort. More experienced riders could merge with vehicle traffic and proceed through the roundabout as would any other vehicle since speeds would be low enough for this. Novice riders would have an option of exiting to the pedestrian path/widened sidewalk and crossing at the crosswalks as pedestrians.

To accommodate bicyclists traveling as vehicles, FHWA design guidelines recommend that bike lanes end in advance of the roundabout to encourage cyclists to mix with vehicles (NCHRP, 2010). The project would provide ramps or other suitable connections between the road surface and the shared path for cyclists who wish to exit or enter the roadway and cross at the crosswalks.

Within the project limits, the roadway beyond the roundabout approaches would have shoulders with widths suitable to their proposed bikeways designations.

A lack of familiarity with roundabouts could lead to conflicts between vehicles and cyclists. Minimization measures are included below to reduce this potential.

The No Build Alternative would not alter existing bicycle facilities at the intersection.

**Avoidance, Minimization & or Mitigation Measures**

A public education campaign would be implemented to inform area drivers and cyclists about the new roundabout. The campaign would include measures such as:

- Hold public meetings prior to opening the roundabout to traffic and/or give presentations at local citizen and cyclists group meetings;
- Prepare news releases detailing what motorists and cyclists can expect during and after construction;
- Distribute an informational brochure explaining how to navigate roundabouts; and
- Install signing that warns of changed traffic patterns.

The SCBPAC has reviewed the preliminary project design (see Appendix I). Caltrans would coordinate with the SCBPAC during the design phase.
2.1.7.5 Construction Impacts

Environmental Consequences

In general, two-way through traffic would be maintained on SR 116 and Mirabel Road during project construction to the maximum extent feasible. However, during some brief stages of construction, single lane closures with flagged traffic control would be required at times (including at night) on Mirabel Road and on SR 116 in the vicinity of Hidden Lake Road (See Section 1.4.1, Build Alternative, and Appendix C). Intermittent traffic delays could occur during project construction.

The No Build Alternative would not result in construction-related traffic impacts.

Avoidance, Minimization & or Mitigation Measures

A Transportation Management Plan would be prepared and implemented to address traffic handling during construction, including non-motorized traffic.

Access to driveways would be maintained during construction.

2.1.8 VISUAL / AESTHETICS

Regulatory Setting

CEQA establishes that it is the policy of the state to take all action necessary to provide the people of the state “with...enjoyment of aesthetic, natural, scenic, and historic environmental qualities.” (CA Public Resources Code Section 21001[b])

In 1988, at the request of local jurisdictions, a portion of SR 116 (including the project limits) was designated as an official State Scenic Highway. The California Streets and Highways Code states that concerning State Scenic Highways, Caltrans “will give special attention both to the impact of the highway on the landscape and to the highway’s visual appearance.” SR 116 is also a designated Scenic Corridor in the Sonoma County General Plan 2020.

Affected Environment

Project impacts were evaluated in a Visual Impact Assessment (VIA) (PRMD, 2012), generally following the guidelines outlined in FHWA’s Visual Impact Assessment for Highway Projects (FHWA, January, 1988). The purpose of the VIA was to assess the visual impacts of the project and identify measures to avoid, minimize or mitigate adverse visual impacts of the project, and improve visual quality through project design. This section summarizes information contained in the VIA associated with the construction of the project on the surrounding visual environment.

The project is located in the community of Forestville, near a transitional point in the regional landscape between the rolling hills and agricultural areas east of Forestville on SR 116 and the narrow, winding canyon and conifer forests of the “Pocket Canyon” area on SR 116 west of the project limits.
The community of Forestville maintains a small town atmosphere. Commercial development is centered along SR 116 (Front Street), surrounded by predominantly low density urban residential development, and lower density rural residential development in the outlying areas.

The SR 116/Mirabel Road intersection is located just to the east of and below a hill crest on SR 116. The hill crest serves to divide the project viewshed into two areas: those areas visible to the west of the hill, and those visible to the east. Approaching the project area from the west, the hill crest ahead on SR 116, the road cut-slopes, and the roadway itself are dominant visual features, because they constrain views approaching the intersection. Oak trees located atop the cut slopes and utility poles along the roadway are prominent vertical features in the landscape.

In the vicinity of the SR 116/Mirabel Road intersection, the landscape transitions from a more rural appearance, to the more developed area of Forestville. Viewers have their first extended views of the commercial area as they reach the intersection travelling easterly. This landscape transition creates a “gateway” character at the intersection. This feeling is reinforced by a decorative “Welcome to Forestville” sign placed for eastbound travelers approximately 200 feet east of the intersection.

A diversity of landscape elements is present at the intersection. Vacant parcels to the south provide views of rolling topography, grassland, scattered oaks, and vineyard (though these parcels are approved for future development). A large eucalyptus along SR 116, and a large clump of trees within the vineyard at the top of the hill are prominent vertical features. These softer-edged natural features contrast with the more formal landscaping and modern structures associated with the gas station across the roadway to the north, and other linear/angular features at the intersection, such as light poles, utility poles/lines, and retaining wall along Mirabel Road.

Caltrans evaluates visual quality by assessing three characteristics of the project viewshed: vividness, intactness, and unity. Vividness is the visual power or memorability of landscape components as they combine in distinctive visual patterns. Intactness is the visual integrity of the natural and man-built landscape and its freedom from encroaching elements. Unity is the visual coherence and compositional harmony of the landscape considered as a whole.

The overall visual quality of the project viewshed is moderate. The landscape has a moderately high level of intactness and unity. The small-scale commercial development and streetscape along SR 116 is generally harmonious with the rural surroundings. Though no strikingly discordant elements are present in the project viewshed, the scale and modern appearance of the gas station and shopping center, and prominence of utility poles and wires at the intersection detract somewhat from the overall visual quality. The project viewshed has a moderate level of vividness. Though of good quality, views are typical of the region and not unique for this route. The gentle, rolling topography and man-made structures lack highly distinctive patterns, and broad vistas are mostly absent.

Viewers of the project include motorists on SR 116 and Mirabel Road, which would include commuters, local area residents and tourists. Motorists views of the project area of relatively short duration. Tourists generally have a high awareness of the visual resources around them, yet are anticipated to be less sensitive to specific changes in that environment, due to a lack of familiarity with the area. Commuters driving the route regularly may be more aware of changes in the visual environment, and local residents or business owners traveling on the roadway are likely most sensitive to aesthetic issues due to their familiarity as well as their personal
investment in the area. Other viewers include bicyclists, who would have somewhat longer
duration views than motorists, and pedestrians in the downtown Forestville area. Pedestrians
also may be divided into locals who live or work in the area and tourists. Many businesses in
the commercial core along SR 116 serve the everyday needs of residents. These local viewers
would be more sensitive to changes in the visual environment. There are also businesses that
attract tourists. Tourists may be less aware of specific changes to the visual environment, but
may desire views of good visual quality.

Environmental Consequences

Visual Simulations

To evaluate visual impacts and inform the public of aesthetic changes proposed by the project,
visual simulations of the project were prepared. Three viewpoints were selected that would
display the key visual effects of the project and represent the primary viewer groups that would
potentially be affected by the project. Figure 6 shows the location of these viewpoints.

Figures 7 through 9 compare existing photographs with simulated future views. Figure 7 is the
view looking from the southeast corner of the Westside Center shopping center property,
elevated above the roadway looking to the southeast across the SR 116/Mirabel Road
Intersection towards downtown Forestville and its surroundings. The viewpoint was selected to
show the primary components of the roundabout itself. Figure 8 is looking west along SR 116
toward the intersection with Mirabel Road. This viewpoint is representative of what a pedestrian
or motorist in downtown Forestville may see as they approach the intersection from the east.
The view shows topographical changes associated with the proposed roadway cut slope on the
south side of SR 116 and the retaining wall at the northwest corner of the intersection. Figure 9
is the view from the top of the south roadway west of the existing hill crest on SR 116 looking
east toward the Mirabel intersection. The viewpoint was selected to show the proposed tiered
retaining wall and topographical changes (lowering of the roadway to improve sight distance).

It should be noted that landscaping shown in the visual simulation is for illustrative purposes,
and final landscaping features (such as plant species and density, pavement textures and
colors, decorative boulders, etc.) would be selected during the design phase. A citizens’
committee is currently working on conceptual designs for the landscape center island.
Preliminary landscape concepts developed by the citizens’ committee are included in Appendix
F. Final selection of landscape designs is subject to Caltrans and County approval.
Figure 6. Photo Simulation Locations
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Figure 7. Photo Simulation of Viewpoint 1

Viewpoint 1. Existing (top) and proposed (bottom). Landscaping shown in the visual simulation is for illustrative purposes, and final landscaping features (such as plant species and density, pavement textures and colors, decorative boulders, etc.) would be selected during the design phase. The red outline represents the roof outline of Building A of the approved Forestville Square Project. The building façade and vegetation associated with Forestville Square appear semi-transparent to distinguish features that are not associated with the proposed intersection Project.
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Figure 8. Photo Simulation of Viewpoint 2

**Viewpoint 2.** Existing (top) and with project (bottom). Landscaping shown in the visual simulation is for illustrative purposes, and final landscaping features (such as plant species and density, pavement textures and colors, decorative boulders, etc.) would be selected during the design phase.
Viewpoint 3. Existing (top) and with project (bottom). Landscaping shown in the visual simulation is for illustrative purposes, and final landscaping features (such as plant species and density, pavement textures and colors, decorative boulders, etc.) would be selected during the design phase.

Figure 9. Photo Simulation of Viewpoint 3
Discussion

Impacts of the project include topographical changes (new cut slopes, grading, and retaining wall with safety fencing) from lowering the roadway to improve sight distance, new structures at the intersection, including the roundabout center island, new pavement, signage, and additional intersection lighting, as well as tree and shrub removal along the existing roadway. Utility poles and lines would be relocated, and would likely be consolidated on one side of SR 116, or possibly relocated underground. Aesthetic features proposed as part of the project include texturing of the retaining wall, textured concrete in buffer strips and around the roundabout truck apron, and landscaping of the center island.

The project would result in removal of 36 trees of varying size, 27 of which are native trees. Trees to be removed include 23 oaks (Oregon white oak, coast live oak, California black oak), three redwoods, one big leaf maple, and nine ornamental or landscape trees (i.e. palms, fruit trees, pines, planted sycamores, pines). Tree removal at the top of the road cut-slope, within the vineyard, and at the northwest corner of the intersection is depicted in the simulations. Tree removal not depicted in the simulations includes a large oak tree and other trees (within the right-of-way and on adjacent residential parcels) in the vicinity of Hidden Lake Road. The project would also result in the removal of scattered shrubs (predominantly coyote brush and blackberry) along the existing roadway cut slopes.

Overall, the project would have a moderate visual impact. In general, the project replaces an existing intersection located at a transition in the landscape with another intersection at the same location. Though an obvious visual change, the roundabout would maintain the existing gateway effect at the SR 116/Mirabel Road intersection. Project features of the roundabout have a more developed appearance than the existing intersection, and would accentuate the transition from the downtown to the more rural area to the west. The specific visual features of the roundabout are expected to receive a positive reception from most viewers. The retaining wall and removal of trees and vegetation at the top of the existing cut slope on the south side of SR 116 could be viewed as moderately adverse. However, the somewhat expanded vistas provided by the topographical changes, and consolidation of utility lines, could be viewed as beneficial.

The existing intersection is lit with one cobra-head fixture mounted on an existing pole. Existing street lighting extends into downtown Forestville along SR 116. The adjacent gas station and shopping center parking lot also have existing lighting. Lighting is required for the roundabout in order to meet safety standards, and is expected to include a cobra-head style light standard on each of the four quadrants of the roundabout, as well as lighting at each crosswalk around the perimeter of the roundabout. The additional lighting for the project would not create a substantial new source of light or glare, and is compatible with the project setting given that surrounding properties and SR 116 to the east are already lit.

Though the project would not result in substantial adverse effects to a scenic vista, individual project components including retaining wall construction and tree removal could be viewed as adverse. Mitigation measures are included so that the project design would take into account the existing visual character and visual character desired by the community. Visual impacts of the project would be less then significant with incorporation of the mitigation measures included below.

The No Build Alternative would not impact the existing visual setting of the area.
Construction Impacts

During construction of the project, which would occur over an approximate 15-month period, viewers would generally see materials, equipment, workers, disturbed soils and the operation of construction equipment. Motorists, pedestrians, and bicyclists would be exposed to views of construction activities while passing through construction zones. A portion of construction activities would be visible from the downtown area. The visual effects of project construction would be temporary. Measures would be included in the project to minimize visual impacts during construction.

State Scenic Highway Program

In 1988, SR 116 within the project limits was officially designated as a State Scenic Highway. As described in the Regulatory Setting, the California Streets and Highways Code states that concerning State Scenic Highways, Caltrans “will give special attention both to the impact of the highway on the landscape and to the highway’s visual appearance.”

The corridor protection program for SR 116 consists of policies in the Sonoma County General Plan and regulations in the Sonoma County Zoning Ordinance protecting Scenic Corridors, as well as policy recommendations contained within the Sonoma 116 Scenic Highway Corridor Study (Caltrans, 1988 and 1996)

Scenic Corridor regulations in the zoning ordinance are applicable to private development projects. General plan policies from Open Space and Resource Conservation (OSRC) element relevant to public road projects include:

**Policy OSRC-3h:** Design public works projects to minimize tree damage and removal along Scenic Corridors. Where trees must be removed, design replanting programs so as to accommodate ultimate planned highway improvements. Require revegetation following grading and road cuts.

**Policy OSRC-3i:** Recognize Highway 116 from Highway 1 to the southern edge of Sebastopol as an official State Scenic Highway. The unique scenic qualities of this portion of Highway 116 shall be protected as generally outlined in the 116 Scenic Highway Corridor Study, September 1988.

Relevant policies from the Sonoma 116 Highway Corridor Study include minimization of tree removal not essential to providing for public safety.

While the state is not subject to the jurisdiction of local ordinances, Caltrans attempts to abide by these policies and ordinances wherever feasible.

The project, with incorporation of the mitigation measures, would be consistent with relevant scenic/visual resources policies of the County and the corridor protection program.

Avoidance, Minimization & or Mitigation Measures

The area located between the tiered walls would be landscaped with native shrubs to the extent feasible (based on maintenance requirements and space constraints) in order to partially screen portions of the wall and provide a more natural appearance. The wall would also be given a
texture and color to harmonize with natural surroundings in the SR 116 corridor and/or with roundabout landscape elements.

Cut slope planting (using no maintenance native shrubs, grasses and groundcover) would be included in the project landscaping plan to mitigate for loss of shrubs.

The County would replant a minimum of 49 native trees. To the extent feasible, tree planting would occur within the right-of-way within the project limits, such as within the roundabout center island and within proposed right-of-way at the top of the proposed roadway cut-slope along the south side of SR 116. However, right-of-way space may be limited due to the need to accommodate utilities and maintenance access, to meet traffic sight distance and safety requirements, and to limit right-of-way acquisition and impacts to adjacent properties. The County of Sonoma would offer to plant trees on private property along the project frontage for those property owners who are interested. If all tree replanting cannot be achieved at these locations, the remaining trees would be planted at an off-site location (Sunset Beach Regional Park) as required per the Natural Environment Study. If off-site planting is required, additional planting of shrubs and other native vegetation along the project cut slopes would be used to mitigate for any remaining visual impact due to the loss of trees.

A landscaping plan addressing center island landscaping, retaining wall texturing and landscaping, and cut-slope landscaping would be developed during the design phase, incorporating input from the citizens’ committee. One or more public meetings would be held in the design phase, during which the public would be invited to comment on the proposed plan. The final plan would be provided to the community prior to implementation.

The contractor would be required to comply with Section 5-1.31, Job Site Appearance, of the Caltrans Standard Specifications (2010), which requires the job site to be kept neat.

Construction staging and storage areas would be screened where feasible. Visual opaque screening would be used to limit exposure to the public for any extended period of time.

### 2.1.9 CULTURAL RESOURCES

#### Regulatory Setting

“Cultural resources” as used in this document refers to all “built environment” resources (structures, bridges, railroads, water conveyance systems, etc.), culturally important resources, and archaeological resources (both prehistoric and historic), regardless of significance.

Historical resources are considered under CEQA, as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Affected Environment

A Historical Resources Compliance Report (HRCR) was completed for the project in July 2012. For CEQA projects, the study areas for cultural resources investigations are referred to as the Project Area Limits (PAL). The PAL includes the project footprint, identified staging area, utility relocation areas, the Sunset Beach Regional Park replanting area, and areas adjacent to the project that could be subject to indirect impacts from the project. The study included a record search at the Northwest Information Center, field survey, and consultation with representatives of local Native American tribes and the local historical society.

The record search identified two known prehistoric archaeological sites in the general vicinity, but well outside of the PAL. No prehistoric archaeological sites were found within the PAL during the field survey.

During the field survey, an historic-era archaeological site was identified that extends into the PAL. The HRCR determined that the archaeological site is exempt from evaluation and it does not meet any criteria outlined in CEQA Guidelines 15064.5(a).

One structure (a building at 6701 Front Street) was evaluated as part of the HRCR, but was determined not to be a historical resource for purposes of CEQA.

Environmental Consequences

The project would have no impacts to significant historical resource(s), pursuant to CEQA Guidelines §15064.5(b)(3).

However, the project includes roadway excavation, slope grading and associated ground disturbing activities. Therefore, a potential exists that the project could unearth previously unidentified cultural resources.

Avoidance, Minimization &/or Mitigation Measures

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission (NAHC) who would then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains would contact Emily Darko at (510) 622-1673 or Emily_Darko@dot.ca.gov so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.
2.2 **Physical Environment**

2.2.1 **WATER QUALITY AND STORM WATER RUNOFF**

**Regulatory Setting**

In 1972 Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Known today as the Clean Water Act (CWA), Congress has amended it several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. Important CWA sections are:

- Sections 303 and 304 require states to promulgate water quality standards, criteria, and guidelines.

- Section 401 requires an applicant for a federal license or permit to conduct any activity, which may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).

- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

USACE issues two types of 404 permits: Standard and General permits. There are two types of General permits, Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

There are two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE’s Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency’s Section 404 (b)(1) Guidelines (U.S. EPA Code of Federal Regulations [CFR] 40 Part 230), and whether permit approval is in the public interest. The Section 404(b)(1) Guidelines were developed by the U.S.
EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA), to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in Section 2.3.2, Wetlands and Other Waters.

**State Requirements: Porter-Cologne Water Quality Control Act (California Water Code)**

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the CWA definition of "pollutant". Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA, and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

**State Water Resources Control Board and Regional Water Quality Control Boards**

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.
• National Pollution Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). The U.S. EPA defines an MS4 as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying storm water.” The SWRCB has identified the Department as an owner/operator of an MS4 pursuant to federal regulations. The Department’s MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The Department’s MS4 Permit, under revision at the time of this update, contains three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);

2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and

3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the Maximum Extent Practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of Best Management Practices (BMPs). The project would be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Construction General Permit

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites which result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development.
By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). In accordance with the Department’s Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain a 401 Certification, which certifies that the project would be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before USACE issues a 404 permit.

In some cases the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as Waste Discharge Requirements (WDRs) under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

Affected Environment

The project is located within the Green Valley Creek watershed, within the North Coast RWQCB jurisdiction (Region 1), on the border of the Wilson Grove Formation Highlands groundwater basin. Green Valley Creek is a tributary of the Russian River. Green Valley Creek and its tributaries drain a basin of approximately 17 square miles.

There are no natural waterbodies within the project limits. Green Valley Creek crosses SR 116 approximately ½ mile west of the western project limits. A small unnamed tributary to Green Valley Creek is located is located approximately 0.4 miles southeast of the project.
The Green Valley Creek watershed is part of the Guerneville Hydrologic Subarea (HSA) of the Russian River Hydrologic Unit. The Guerneville HSA is listed as impaired under the Environmental Protection Agency’s (EPA) 303(d) List of Water Quality Limited Segments for pollutants/impairments which include the following: sedimentation/siltation and water temperature. The Region 1 RWQCB Basin Plan has established beneficial uses for the Guerneville HSA. These include municipal supply, agricultural supply, industrial service supply, groundwater recharge, freshwater replenishment, navigation, water recreation, commercial and sportfishing, aquatic (both warm and cold water) wildlife habitat, terrestrial wildlife habitat, rare, threatened and endangered species, migration of aquatic organisms, spawning, and estuarine habitat.

Storm water from the project area is carried in a combination of sheet flow, roadside ditches, storm drains, and concrete gutter. Storm water west of the hill crest on SR 116 drains to Green Valley Creek. Immediately west of Hidden Lake Road, water is conveyed along the shoulder and in poorly defined roadside ditches. Further west of Hidden Lake Road, the ditches become more defined. Shallow roadside ditches collect storm water along Hidden Lake Road. There are no roadside ditches on SR 116 between Hidden Lake Road and Mirabel Road, and storm water runs along the shoulder and roadway as sheet flow.

Storm water in the project area east of the hill crest on SR 116 drains to the unnamed tributary to Green Valley Creek. Drainage inlets are present at the northwest and northeast corners of the SR 116/Mirabel Road intersection, and storm water is carried in a storm drain along the north side of SR 116 east of the intersection. Along Mirabel Road, within the project limits, storm water flows in concrete gutters to the storm drain inlets at the intersection. The storm drain system discharges to a swale along the West County Trail, which connects with the unnamed tributary to Green Valley Creek located approximately 0.5 miles southeast of the project limits.

The County has classified the project area as an area of marginal groundwater availability (Sonoma County, 1989). Existing and potential beneficial uses for groundwater in the Region 1 RWQCB Basin Plan include municipal and domestic water supply, and agricultural water supply.

**Environmental Consequences**

*Long-term Impacts*

No waters of the U.S. are present in the project limits. Therefore, the project would not result in a discharge dredged or fill material into waters of the U.S., and would not require a 404 CWA permit or 401 Water Quality Certification.

Storm water from the project would be connected to the existing storm water drainage system on the east end of the project and to existing roadside ditches at the western project limits. The project would increase the amount of permanent impervious surface (paved areas) by 0.56 acres over the existing conditions. The area of reconstructed pavement is 1.38 acres. Increases in the amount of paved surfaces may increase flow velocities and volume of storm water runoff, and carry additional pollutants to receiving waters. The primary pollutant of concern for this project is sediment. The project is required to achieve 100% treatment of storm water equal to the added impervious area, and would treat the reconstructed impervious area to the Maximum Extent Practicable. Treatment measures are described below under Avoidance, Minimization and/or Mitigation measures.
The project also requires construction of cut slopes, which could result in soil erosion and sedimentation to surface waters over the long term if not properly stabilized.

The No Build Alternative would not increase impervious surfaces or otherwise alter existing storm water facilities.

Construction Impacts

Project construction would disturb approximately 4.14 acres of soil. Disturbed surfaces impact water quality by increasing runoff of sediment. Construction activities can also result in accidental releases of oil, fuel or other fluids from construction equipment. Measures are included below to minimize impacts to water quality from construction activities.

The No Build Alternative would not result in construction-related water quality impacts.

Avoidance, Minimization &/or Mitigation Measures

1) Section 401 of the Clean Water Act

No 401 Water Quality Certification and no 404 CWA permit is required, because the project would not discharge dredged or fill materials into any Waters of the U.S.

2) Section 402 of the Clean Water Act

According to Caltrans' NPDES permit and the Construction General Permit, BMPs would be incorporated to reduce the discharge of pollutants during construction as well as permanently to the Maximum Extent Practicable. These BMPs fall into three categories: Temporary Construction site BMPs, Design Pollution Prevention BMPs, and Permanent Treatment BMPs.

(a) Construction Site Best Management Practices (BMPs)

Construction Site BMPs would be implemented during construction activities to reduce pollutants in storm water discharges. Temporary silt fences, fiber rolls, drain inlet protections, concrete washouts, stockpile covers, stabilized construction entrances/exits, street sweeping, spill prevention measures, and temporary soil stabilizers (i.e. mulch) are some of the temporary erosion and water pollution control measures that may be used in combination to prevent and minimize soil erosion and sediment discharges during construction. Given that the anticipated soil disturbance is greater than one acre, a SWPPP would be developed by the Contractor and would be implemented during construction. This dynamic document addresses the deployment of various erosion and water pollution control measures that are required for changing construction activities. The SWPPP would include 1) standard temporary erosion control measures to reduce sedimentation and turbidity of surface runoff from disturbed areas; 2) personnel training; 3) scheduling and implementation of BMPs throughout the construction phases and seasons; 4) identification of BMPs for non-storm water discharges such as fuel spills; and 5) monitoring throughout the construction period.

(b) Permanent Design Pollution Prevention BMPs

Design Pollution Prevention BMPs are permanent measures to improve storm water quality by reducing erosion, stabilizing disturbed soil areas, and maximizing vegetated surfaces. Erosion control measures would be provided on all disturbed areas to the extent feasible. These
measures can use a combination of source and sediment control measures to prevent and minimize soil erosion from disturbed areas.

For this project, treatments may include fiber rolls and hydroseeding that would be placed on slopes to control runoff of sediment. Other measures to be considered in the design phase of the project include compost blankets, compost, and erosion control blankets.

Further slope stabilization would be provided by native landscape plantings, with planting specifications to be determined during the design phase. Design Pollution Prevention BMPs associated with permanent landscaping may include low-water plantings, native groundcovers, and selection of plantings requiring minimal pesticide use.

The project includes creating (and modifying existing) ditches, dikes, berms and swales. Changes to drainage could result in changes to the interception of surface runoff. Outlet protection and velocity dissipation devices are another form of Design Pollution Prevention BMPs to reduce runoff velocity and control erosion and scour. Implementing these devices for this project would be further investigated during the design phase.

The project has been designed to minimize areas of disturbance and retain existing vegetation when feasible. Vegetation to be retained would be shown on the plans.

(c) Permanent Treatment BMPs

Treatment BMPs are permanent devices and facilities for treating storm water runoff. Treatment would be included to the Maximum Extent Practicable. Currently proposed treatment BMPs include bioswales at the west end of the project and south of the fourth leg of the roundabout, and tree well filter inlets. Treatment BMPs would be selected following further study in the design phase, and may include infiltration devices, biofiltration strips, bioswales, and tree well filters.

2.2.2 GEOLOGY / SOILS / SEISMIC / TOPOGRAPHY

Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. The Department’s Office of Earthquake Engineering is responsible for assessing the seismic hazard for Department projects. Structures are designed using the Department’s Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge’s category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see the Department’s Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Affected Environment

Geotechnical reports were prepared for the project in 2008 and 2012. These reports reviewed existing geological data, conducted soil exploration borings, evaluated slope stability, and made recommendations regarding retaining wall design.

The topography of the area consists of gently rolling hills. There is a hill crest directly west of the SR 116/Mirabel Road intersection. SR 116 passes through the hill on an existing road cut approximately 9 feet deep with side slope gradients ranging from near vertical near the top to 1:1 lower on the slope. East of the intersection, SR 116 continues downhill for approximately 600 feet before beginning to rise again.

The soil type in the project area is mapped as Goldridge fine sandy loam by the United States Department of Agriculture, Natural Resource Conservation Service. Based on test borings, the soil is classified as silty sand under the Unified Soil Classification System. The underlying geology is silty sandstone of the late Pliocene to late Miocene Wilson Grove Formation (Blake, Graymer and Stamski, 2002; Kleinfelder, 2012). According to the test borings, the bedrock is encountered almost immediately near the surface, but the rock material behaves similar to a dense to very dense soil material and is readily excavated.

The depth to groundwater varies, based on the test borings. Groundwater was encountered at depths between 3.5 feet to 27 feet depending on the location of the borings, while in many of the borings (including one to a depth of 31 feet) no groundwater was encountered. Groundwater levels in the Wilson Grove Formation can fluctuate depending on factors including seasonal rainfall, temperature, rock permeability, groundwater withdrawal and construction activities in the area (Kleinfelder, 2008).

All of Sonoma County, including the project area, is subject to strong seismic ground shaking hazards from the San Andreas, Healdsburg, Rodgers Creek and Maacama faults, and other potentially active faults. The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act) requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazard of fault rupture. The project site is not within a fault hazard zone as defined by the Alquist-Priolo Earthquake Fault Zoning Act. No known active fault traces traverse the site (Kleinfelder, 2012). The Mt. Jackson Fault is located approximately 1-1.5 miles north and east of site. The Mt. Jackson fault is classified as “possibly active” because it exhibits features that suggest surface rupture in the recent geological past (DMG, 1980), but does not fit the criteria used to identify faults within Alquist-Priolo Special Study Zones.

The project site has a minimal liquefaction risk and low susceptibility to landslides (DMG, 1980).

Environmental Consequences

The project would result in the creation of permanent roadway slopes, as well permanent retaining walls.

According to the geotechnical investigation, the permanent roadway slopes of 2:1 would provide adequate slope stability under normal conditions and in seismic events.
Project construction would require excavation, temporary cut slopes, and temporary retaining walls, which could expose workers to seismic hazards. Temporary cut slopes not steeper than 1.5:1, in combination with temporary retaining wall, are proposed during construction to allow through traffic to be maintained on SR 116. According to the geotechnical investigation, these temporary cut slopes would be stable. However, surface erosion of permanent and temporary slopes and other disturbed areas could occur during wet weather. Measures would be included in the project to provide for construction worker safety.

A retaining wall would be constructed on the north side of SR 116 between Hidden Lake Road and Mirabel Road. The geotechnical investigation provides information that would be used in determining the appropriate wall design.

Based on current groundwater information from test borings in the preliminary geotechnical investigation, and the proposed depths of cut, groundwater is not expected to be encountered in the excavation for the project. However, the investigation notes that groundwater in the area can fluctuate due to seasonal rainfall or other factors.

The No Build Alternative would not impact geology, soils, or result in a change to seismic-related risks.

Avoidance, Minimization &/or Mitigation Measures

To minimize potential impacts from seismic events, the project would be constructed in accordance with all applicable Caltrans standards and regulations, and would be designed for the Maximum Credible Earthquake (MCE). All construction activities would adhere to current engineering practices and recommendations provided by a Geotechnical Engineer/Engineering Geologist.

A licensed engineer and/or their representative, experienced in the design and construction of soil nail walls would monitor the soil nail wall construction along SR 116. As the soil nail wall is constructed from the top down, the licensed engineer and/or their representative would observe the exposed material in the cut face and cuttings from the soil nail drill holes to verify that the conditions are consistent with those assumed during design. If the conditions exposed in the excavation are weaker than assumed in the design, the soil nail wall design would be modified such that the design meets the minimum factors of safety specified in the geotechnical report.

The contractor would be prepared to divert or pump seeping groundwater from the slope area during construction activities if encountered. Fluctuations of the groundwater level, localized zones of perched water and soil moisture content variations should be anticipated during and following the rainy season.

Temporary and permanent measures would be implemented to minimize the impact of erosion, including, but not limited to, appropriate vegetative cover of disturbed areas to stabilize soil against wind and water erosion, and construction of erosion resistant drainage structures to collect surface water and divert it away from slopes to suitable discharge points. Erosion control would be applied and landscape planting would be established as soon after grading as possible. As described in Section 2.2.1, Water Quality and Storm Water Run-off, a SWPPP would be implemented during construction to limit erosion.
Construction activities would comply with applicable occupational safety and health standards, rules, regulations, and orders, as well as Caltrans Standard Specifications for occupational safety and health and excavation safety.

2.2.3 PALEONTOLOGY

Regulatory Setting

Paleontology is the study of life in past geologic time based on fossil plants and animals. Under California law, paleontological resources are protected by CEQA.

Affected Environment

A Paleontological Evaluation Report (PER) and Mitigation Plan (PMP) has been prepared for the project (Allen, 2012). According to geologic maps of the project area, the project is underlain by ancient ocean crustal rocks (turbidites, ultramafics) and marine sedimentary rocks of the Pliocene (about 5 million years old), friable, Wilson Grove Formation (California Geological Survey, 2009) (See Figure 10). It is a common location for paleontological remains (Sonoma County, 2008).

Within the Wilson Grove Formation, over 100 fossil localities have been mapped, the closest of which is approximately 0.75 miles west of the project (Powell et al., 2004). The following fossil types have been found in the Wilson Grove Formation, according to paleontological record search performed for the PER: Microfossils (foraminifer), Invertebrates (sponges-bryozoans, clams-pelecypods and snails-gastropods) and vertebrates (extinct whale-cetacean and dolphin bones).

Assessments of paleontological sensitivity (i.e., potential to contain scientifically important paleontological resources) follow standard Caltrans criteria (California Department of Transportation, 2012). The Caltrans criteria identify three categories to describe the likelihood that a geologic unit contains significant fossil materials: high potential, low potential, and no potential, as indicated below in Table 8. Sedimentary rocks of the Wilson Grove Formation are assigned a High paleontological sensitivity rating.
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Figure 10. Geologic Map of the Project Area

Source: Allen, 2012


DESCRIPTION OF MAP UNITS WITHIN PROJECT

Wilson Grove Formation (late Pliocene to late Miocene) – Light-gray to yellow-brown marine sandstone. The sandstone is fine- to medium-grained, well-sorted, massive or thick-bedded, and locally fossiliferous or tuffaceous.

Source: Allen, 2012
### Table 8. Caltrans Paleontological Sensitivity Terminology

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<tr>
<th>Caltrans Sensitivity Designation</th>
<th>Characteristics of Geologic Units in This Category</th>
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| **High Potential (High Sensitivity)** | This category consists of rock units known to contain significant vertebrate, invertebrate, or plant fossils anywhere within their geographic extent, including sedimentary rock units that are suitable for the preservation of fossils, as well as some volcanic and low-grade metamorphic rock units. This category includes rock units with the potential to contain:  
  - abundant vertebrate fossils;  
  - a few significant vertebrate, invertebrate, or plant fossils that may provide new and significant taxonomic, phylogenetic, ecologic, and/or stratigraphic data;  
  - areas that may contain datable organic remains older than Recent;  
  - areas that may contain unique new vertebrate deposits, traces, and/or trackways; and  
  - fossiliferous deposits with very limited geographic extent or an uncommon origin (e.g., tar pits and cave deposits). |
| **Low Potential (Low Sensitivity)** | This category includes sedimentary rock units that:  
  - are potentially fossiliferous, but have not yielded significant fossils in the past;  
  - have not yet yielded fossils, but have the potential to contain fossil remains; or  
  - contain common and/or widespread invertebrate fossils of species whose taxonomy, phylogeny, and ecology are well understood.  
  *Note that sedimentary rocks expected to contain vertebrate fossils are considered highly sensitive, because vertebrates are generally rare and found in more localized strata.* |
| **No Potential (No Sensitivity)** | This category includes rock units of intrusive igneous origin, most extrusive igneous rocks, and moderate- to high-grade metamorphic rocks. |
Environmental Consequences

Construction activities may impact paleontologically sensitive geologic units when equipment excavates, grades or otherwise impacts previously undisturbed sediment/rocks. This can result in destruction of fossils, or disturbance from their setting such that their scientific value is lost. The project includes excavation ranging from zero to approximately 20 feet in depth in the Wilson Grove Formation for construction of travel lanes, road cuts, retaining walls, utility relocation and drainage features, and may impact previously undiscovered fossils.

As stated above, the Wilson Grove Formation has a high sensitivity for paleontological resources. Paleontological resources preserved in sedimentary rocks of the Wilson Grove Formation have the potential to provide the following geological, paleontological, and biological information:

- Paleoecologic structure of Late Miocene-Pliocene marine invertebrate assemblages of northern California,
- Late Miocene-Pliocene marine paleoenvironments and paleoclimate of northern California,
- Late Miocene-Pliocene marine biodiversity and biogeography of northern California,
- Late Miocene-Pliocene marine microfossil biochronology and biostratigraphy,
- Late Miocene-Pliocene marine microfossil evolution and systematics,
- Late Miocene-Pliocene marine invertebrate evolution and systematics; and
- Correlation of Late Miocene-Pliocene marine sedimentary rocks of the greater Bay Area.

The project includes mitigation measures for impacts to paleontological resources, as described below. The research themes above have been considered and incorporated into the design of the mitigation measures.

The No Build Alternative would not impact paleontological resources.

Avoidance, Minimization &/or Mitigation Measures

A project-specific PMP has been developed by a qualified professional paleontologist and would be implemented during project construction. The PMP would include the following components:

- A qualified professional paleontologist (Project Paleontologist) would be retained to administer the PMP.
- The Project Paleontologist would annotate construction plans to show Environmentally Sensitive Areas (ESAs) for paleontological resources.
The Project Paleontologist may designate a paleontological monitor meeting minimum qualifications as outlined in the PMP to be present during earth-moving activities. The Project Paleontologist and paleontological monitor(s) would be notified by the Lead Agency or Resident Engineer in advance of the start of construction activity.

All Project personnel would receive paleontological training prior to commencement of work.

In all identified areas of concern, a paleontological monitor would be present to observe ground disturbance activities. It is the Resident Engineer’s responsibility to keep the Project Paleontologist and the paleontological monitor(s) up-to-date with current plans and any construction or scheduling changes.

Full-time monitoring during at least the first two-weeks of ground disturbing activities would be required in Environmentally Sensitive Areas underlain by the Wilson Grove Formation. Part-time monitoring (less than four hours/day, on average) may be carried out under the recommendations of the Project Paleontologist.

Ongoing recordation of stratigraphic data is required during excavation monitoring to provide context for any eventual fossil discoveries.

Bulk samples of the sedimentary matrix would be collected and processed to identify presence of microfossils that may not be readily visible in the field. Blocks of sedimentary rock would be hand quarried and split along bedding planes to reveal compressed fossil plant material.

In the event of a fossil discovery, the monitor or Project Paleontologist has the authority to temporarily stop construction or grading work at the discovery location. When work is stopped, the Resident Engineer would be contacted immediately. The paleontological monitor, under direction of the Project paleontologist, would divert, direct, or temporarily halt ground disturbing activities in the area of discovery to allow for preliminary evaluation of potentially significant paleontological resources and to determine if additional mitigation (i.e., collection and curation) is required.

The significance of the discovered resources would be determined by the Project Paleontologist in consultation with appropriate Caltrans representatives, based on significance criteria contained in the PMP.

For significant paleontological resources, a data recovery program would be initiated, and would include fossil recovery, preparation, identification to the lowest taxonomical level practical, and sorting. Specimens would be cataloged and a complete list would be prepared of specimens introduced into the collections or repository of a recognized, nonprofit paleontological specimen repository with a permanent curator, such as a museum or a university. A complete set of field notes, geologic maps, and stratigraphic sections must accompany the fossil collections.

A Paleontological Mitigation Report would be completed that outlines the results of the mitigation program.
2.2.4 HAZARDOUS WASTE/MATERIALS

Regulatory Setting

Hazardous materials, including hazardous substances and wastes are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA). The purpose of CERCLA, often referred to as “Superfund,” is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. RCRA provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 12088, Federal Compliance with Pollution Control Standards, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires clean-up of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and clean up contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is encountered, disturbed during, or generated during project construction.
Affected Environment

An Initial Site Assessment (ISA) has been completed for the project (2007). The ISA included a review of federal, state and local regulatory records for reports of hazardous waste, as well as a visual inspection of the project site to check for evidence of hazardous substance storage, application, use, or disposal, discolored soil or water, stressed vegetation, sumps, drums, transformers, groundwater wells, surface tanks, ponds, basins, landfills, cisterns, wetlands or aboveground storage tanks (ASTs).

Land use surrounding the project includes commercial, agricultural, and rural residential. An active service station is located at the northeast corner of the SR 116/Mirabel Road intersection (discussed below). No signs that hazardous substances may be present were observed in the project area.

The State GeoTracker website records indicated that the site of the current Rotten Robbie Service Station in the northeast quadrant of the roundabout recorded a fuel release from an underground storage tank (UST) in 1999, but the leaking USTs and affected soils were removed from the site. Based on remedial activities, the limited extent of the affected area, and declining concentrations of gasoline components in monitoring wells, the County of Sonoma Department of Health Services granted site closure in 2005.

Based on the site inspection and database review, the ISA found that no Recognized Environmental Conditions (REC) were identified on or in the vicinity of the project site, and concluded that the project site was not likely to have the potential for hazardous waste involvement.

In 2010, HDR Engineering, Inc. performed a review of the ISA and requested a new database search of environmental records. Environmental Data Resources, Inc. (EDR) conducted a database search on August 27, 2010. The EDR report identified two sites (Pacific Bell and Angelo Giusti Disposal) that were not identified in the 2007 report. Based on their general location and information provided in the 2010 EDR report, HDR concluded that no new RECs are present on or in the vicinity of the project site.

Exhaust from vehicle traffic on SR 116 and Mirabel Road may have contaminated surface soils within the project limits with aerially deposited lead (ADL). ADL resulted from the use of automotive leaded gasoline until the mid-1980s. This contamination may be present in exposed soils adjacent to SR 116 and Mirabel Road.

Environmental Consequences

The project would require grading and/or excavation into soils potentially contaminated with ADL during project construction. This could result in adverse impacts to workers or the environment if soils are improperly handled or disposed of.

The No Build Alternative would have no impact on hazardous waste or hazardous materials.

Avoidance, Minimization &/or Mitigation Measures

Testing for ADL would be performed at the Plans, Specifications and Estimates (PS&E) stage prior to project construction. If ADL is found, special handling of the contaminated soil would be
required and would include implementing a Health and Safety Plan. Soil that is disturbed by the project would be handled and disposed of in accordance with all local, State, and Federal requirements.

### 2.2.5 AIR QUALITY

**Regulatory Setting**

The Federal Clean Air Act (FCAA) as amended in 1990 is the federal law that governs air quality. The California Clean Air Act of 1988 is its companion state law. These laws, and related regulations by U.S. EPA and California Air Resources Board (ARB), set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and State ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns. The criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO₂), particulate matter (PM, broken down for regulatory purposes into particles of 10 micrometers or smaller – PM₁₀ and particles of 2.5 micrometers and smaller – PM₂.₅), lead (Pb), and sulfur dioxide (SO₂). In addition, State standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H₂S), and vinyl chloride. The NAAQS and State standards are set at a level that protects public health with a margin of safety, and are subject to periodic review and revision. Both State and Federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics within their general definition.

Federal and State air quality standards and regulations provide the basic scheme for project-level air quality analysis under CEQA.

In addition to this type of environmental analysis, a parallel “Conformity” requirement exists under the FCAA. FCAA Section 176(c) prohibits the U.S. Department of Transportation and other Federal agencies from funding, authorizing, or approving plans, programs or projects that are not first found to conform to the State Implementation Plan (SIP) for achieving the goals of Clean Air Act requirements related to the NAAQS. Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant national ambient air quality standards. No federal-aid funding is anticipated and no FHWA action is required for the project. Therefore, federal air quality conformity requirements do not apply.

### Affected Environment

The project is located in the North Coast Air Basin. Within Sonoma County, the North Coast Air Basin is under the jurisdiction of the Northern Sonoma County Air Pollution Control District (NSCAPCD).

In the Forestville area, December is the coolest month on average, with an average monthly high temperature of 57 degrees F and an average low temperature of 34 degrees F. July is the warmest month on average, with an average monthly high temperature of 84 degrees F and an average low temperature of 49 degrees F (Weather.com, 2010). The average annual rainfall is 45.1 inches. The official rainy season is from October 15 to April 15 (Caltrans, 2003), with the
highest average rainfall occurring in January (Weather.com, 2010). The area is coastally influenced, and is subject to frequent fog.

The NAAQS, State air quality standards, and the attainment status (i.e. whether or not an area meets the prescribed standards) for the NSCAPCD in which the project is located, are included in Table 9. The project area is not located in a non-attainment area or maintenance area\(^1\) for any of the NAAQS or State standards.

### Table 9. National and California Ambient Air Quality Standards and NSCAPCD Attainment Status

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Time</th>
<th>State Standard</th>
<th>Federal Standard</th>
<th>Principal Health and Atmospheric Effects</th>
<th>Typical Sources</th>
<th>Attainment Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone (O(_3))(^2)</td>
<td>1 hour 8 hours</td>
<td>0.09 ppm</td>
<td>---</td>
<td>High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.</td>
<td>Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NO(_x)) in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes.</td>
<td>Federal: Unclassifiable/Attainment State: Attainment</td>
</tr>
<tr>
<td>Carbon Monoxide (CO)</td>
<td>1 hour 8 hours</td>
<td>20 ppm</td>
<td>35 ppm</td>
<td>CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone.</td>
<td>Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.</td>
<td>Federal: Unclassifiable/Attainment State: Unclassified</td>
</tr>
<tr>
<td>Respirable Particulate Matter (PM(_{10}))(^2)</td>
<td>24 hours Annual</td>
<td>50 µg/m(^3)</td>
<td>150 µg/m(^3)</td>
<td>Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM(_{10}).</td>
<td>Dust- and fume-producing industrial and agricultural operations; combustion smoke; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources (wind-blown dust, ocean spray).</td>
<td>Federal: Unclassifiable State: Attainment</td>
</tr>
</tbody>
</table>

\(^1\) An area that was previously designated as a non-attainment area but has now met the standard—with EPA approval of a suitable air quality plan—is called a "maintenance" area.
## Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

### State Route 116 at Mirabel Road Intersection Improvement Project

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Time</th>
<th>State Standard</th>
<th>Federal Standard</th>
<th>Principal Health and Atmospheric Effects</th>
<th>Typical Sources</th>
<th>Attainment Status</th>
</tr>
</thead>
</table>
| Fine Particulate Matter (PM$_{2.5}$) | 24 hours Annual | 12 $\mu g/m^3$ | 35 $\mu g/m^3$  | Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the PM$_{2.5}$ size range. Many aerosol and solid compounds are part of PM$_{2.5}$. | Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG. | Federal: Unclassifiable/Attainment  
State: Unclassified |
|                                    | 24 hours (conformity process) | ---              | 15.0 $\mu g/m^3$ | 65 $\mu g/m^3$ (4th highest in 3 years)                                                                 |                                                                                                  |                   |
|                                    | 8 hours Visibility of 10 miles or more | ---             | ---              | Reduces visibility. Produces haze.                                                                           | See particulate matter above.                                                                  | State Only: Unclassified |
| Nitrogen Dioxide (NO$_2$)          | 1 hour          | 0.18 ppm       | 0.100 ppm $^2$   | Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain. Part of the “NOx” group of ozone precursors. | Motor vehicles and other mobile sources; refineries; industrial operations.                    | Federal: Unclassifiable/Attainment  
State: Attainment |
|                                    | Annual          | 0.030 ppm      | 0.053 ppm        |                                                                                                             |                                                                                                  |                   |
|                                    | 3 hours         | ---            | 0.25 ppm         |                                                                                                             | Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used. | Federal: Unclassifiable  
State: Attainment |
|                                    | 24 hours Annual | ---            | 0.04 ppm         |                                                                                                             |                                                                                                  |                   |
|                                    | Monthly         | 1.5 $\mu g/m^3$| ---              | Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant. | Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from gasoline may exist in soils along major roads. | Federal: Unclassifiable  
State: Attainment |
|                                    | Quarterly       | 1.5 $\mu g/m^3$| ---              |                                                                                                             |                                                                                                  |                   |
|                                    | Rolling 3-month average | ---        | 0.15 $\mu g/m^3$ |                                                                                                             |                                                                                                  |                   |
|                                    | 24 hours        | 25 $\mu g/m^3$ | ---              | Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles. | Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas. | State Only: Attainment (entire state) |
| Sulfate                            | 8 hours         | Visibility of 10 miles or more | --- |                                                                                                             |                                                                                                  | State Only: Unclassified |
| Hydrogen Sulfide (H$_2$S)          | 1 hour          | 0.03 ppm       | ---              | Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. | Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs. | State Only: Unclassified |
| Visibility Reducing Particles      | 8 hours         | Visibility of 10 miles or more | --- |                                                                                                             |                                                                                                  | State Only: Unclassified |

---

* Federal: Unclassifiable/Attainment  
State: Attained

State Only: Unclassified

1. From photochemical reactions and combustion
2. Annual 24 hours
3. Monthly 3-month average
4. Quarterly

---

State Route 116 at Mirabel Road Intersection Improvement Project

* 70
Environmental Consequences

Operations

The project would replace an existing intersection with a single-lane roundabout. It does not provide additional through lanes on SR 116 or Mirabel Road, and does not generate new traffic. The project would improve operations at the SR 116/Mirabel Road intersection and reduce vehicle idling (with an average delay of up to 15 seconds per vehicle in year 2035 compared to 36.3 seconds in the a.m. peak and 17.2 seconds in the p.m. peak for the existing condition; see Table 7 in Section 2.1.7, Traffic and Transportation/Pedestrian and Bicycle Facilities). Therefore, this alternative would not have adverse impacts on air quality during operations.
Under the No Build alternative, the southbound Mirabel approach to the intersection would continue to operate at LOS E in the a.m. peak hour, and is projected to operate at LOS F in the a.m. and p.m. peak hours in the design year of 2035, with delays of over 10 minutes for vehicles at the intersection. Extended vehicle idling may result in adverse air quality impacts.

Construction

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust- PM10) generated by excavation, grading, hauling, and other activities related to construction. Construction impacts to air quality are short-term in duration and, therefore, would not result in long-term adverse conditions. Emissions from construction equipment are also anticipated and would include carbon monoxide (CO), nitrogen oxides (NOx), volatile organic compounds (VOCs), directly-emitted particulate matter (PM10 and PM2.5), and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NOx and VOCs in the presence of sunlight and heat.

Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust. PM10 emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM10 emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Construction activities for large development projects are estimated by the EPA to add 1.2 tons of fugitive dust per acre of soil disturbed per month of activity. If water or other soil stabilizers are used to control dust, the emissions can be reduced by up to 50 percent. The Caltrans Standard Specifications (Section 14-9.03 Dust Control and Section 18 Dust Palliative) pertaining to dust minimization requirements require use of water or dust palliative compounds and would reduce potential fugitive dust emissions during construction. The project would disturb a total of approximately 4.14 acres of soil over the nine- month- to one-year duration of construction activities. The amount disturbed at any one time would vary depending on construction stage.

In addition to dust-related PM10 emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO₂, NOx, VOCs and some soot particulate (PM10 and PM2.5) in exhaust emissions. Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, removing existing roadways, and paving roadway surfaces. Construction-related effects on air quality from most highway projects are greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. If not properly controlled, these activities would temporarily generate PM10, PM2.5, and small amounts of CO, SO₂, NOx, and VOCs.

SO₂ is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Off-road diesel fuel meeting Federal Standards can contain up to 5,000 parts per million (ppm) of sulfur, whereas on-road diesel is restricted to less than 15 ppm of sulfur. However, under California law and Air Resources Board regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel, so SO₂-related issues due to diesel exhaust would be minimal. Some phases of construction, particularly asphalt paving, would result in short-term odors in the immediate area of each paving site(s).
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Such odors would be quickly dispersed below detectable thresholds as distance from the site(s) increases.

The No Build Alternative would not result in construction-related air quality impacts.

Avoidance, Minimization & or Mitigation Measures

The construction contractor would comply with Caltrans’ Standard Specifications in Section 14 (2010).

- Section 14-9.01 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

- Section 14-9.02 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are contained in Section 18.

The contractor would develop a dust control plan documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.

All exposed surfaces (e.g., parking areas, staging areas, graded areas, and unpaved access roads) would be watered two times per day, or more frequently as necessary, to minimize dust. (Alternatively, dust palliative materials may be used.)

The contractor would enclose, cover, water twice daily, or apply nontoxic soil binders to exposed stockpiles (dirt, sand, etc.).

All haul trucks transporting soil, sand, or other loose material off-site would be covered.

All visible mud or dirt track-out onto adjacent public roads would be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

All vehicle speeds on unpaved roads would be limited to 15 mph.

All roadways, driveways, and sidewalks to be paved would be completed as soon as possible.

Idling times would be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage would be provided for construction workers at all access points.

All construction equipment would be maintained and properly tuned in accordance with manufacturer’s specifications. Use low-sulfur fuel in all construction equipment as provided in California Code of Regulations Title 17, Section 93114.

A publicly visible sign would be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person would respond and take corrective action...
within 48 hours. The Air District’s phone number would also be visible to ensure compliance with applicable regulations.

The contractor would install stabilized construction entrances and/or wheel washes at project access points to minimize dust and mud deposits on roads affected by construction traffic.

The contractor would install permanent erosion control as soon as practical after grading to reduce windblown particulate in the area.

Route and schedule construction traffic to avoid peak travel times as much as possible, to reduce congestion and related air quality impacts caused by idling vehicles along local roads.

2.2.6 NOISE

Regulatory Setting

**CALIFORNIA ENVIRONMENTAL QUALITY ACT**

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless such measures are not feasible.

Section 7 of Caltrans’ *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Project (TNAP), May 2011,* contains policies for addressing noise impacts under CEQA. According to the TNAP, the increase in noise created by a project, the modeled absolute noise level, and the project setting are all factors that may be considered in determining significance under CEQA.

Construction noise is frequently governed by local noise ordinances. Sonoma County does not have an adopted noise control ordinance.

Figure 11 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

State Route 116 at Mirabel Road Intersection Improvement Project

Figure 11. Noise Levels of Common Activities

Affected Environment

A Noise Study Report (Illingworth & Rodkin, 2010) has been prepared to address potential noise impacts of the project.

Residential land uses are considered sensitive noise receptors. Residential uses exist north and south of SR 116 in the vicinity of Hidden Lake Road, and behind the commercial development along SR 116 in the vicinity of the proposed roundabout. The approved developments south of SR 116/Mirabel Road intersection also include proposed residential uses. Though not yet constructed, these potential sensitive noise receptors were also considered in the analysis. Commercial uses are located directly north of SR 116 in the vicinity of the proposed roundabout. Commercial uses are not considered noise-sensitive.

Noise measurements were taken at three locations to characterize the existing noise levels and to quantify the daily trend in noise levels. Loudest-hour noise levels were then calculated at identified sensitive receptors (See Figure 12) by adjusting for differences in traffic conditions during the measurements and the loudest existing hourly traffic conditions. Then noise levels
were calculated to characterize the change in noise levels in the project area throughout the day. The Noise Study Report concluded that the existing loudest-hour traffic noise levels at sensitive receptors were between 53 and 62 decibels (dBA).

**Figure 12. Noise Measurement and Receptor Locations**

**Environmental Consequences**

**Operational Impacts**

The project does not increase traffic in the project area. Therefore, potential noise impacts from the project are limited to those resulting from project changes in roadway speeds, roadway alignment, and/or topography. The Noise Study Report used the FHWA computer model known as Traffic Noise Model Version 2.5 to calculate existing and future noise levels. The future noise levels with the project were modeled for year 2013 and are included in Table 10. The maximum increase in noise level at any location within the project limits compared to the existing condition would be one dBA. A noise increase of three dBA is considered the minimum increase that a person can perceive, so a one dBA increase would be imperceptible to receptors. Noise levels are predicted to decrease by one to three dBA at receptors nearest the roundabout as a result of decreased travel speeds in the immediate vicinity of the roundabout. Traffic noise levels would increase by up to one dBA at receptors outside of the splitter islands compared to the existing conditions. Traffic noise levels would increase at only one receptor compared to the No Build Alternative in year 2013.
Table 10. Existing and Predicted Noise Levels

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>SFR</td>
<td>62</td>
<td>62</td>
<td>63</td>
</tr>
<tr>
<td>R2</td>
<td>SFR</td>
<td>60</td>
<td>61</td>
<td>61</td>
</tr>
<tr>
<td>R3</td>
<td>SFR</td>
<td>61</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td>R4</td>
<td>SFR</td>
<td>59</td>
<td>59</td>
<td>59</td>
</tr>
<tr>
<td>R5</td>
<td>SFR</td>
<td>53</td>
<td>53</td>
<td>50</td>
</tr>
<tr>
<td>R6</td>
<td>MFR</td>
<td>57</td>
<td>57</td>
<td>56</td>
</tr>
<tr>
<td>R7</td>
<td>MFR</td>
<td>58</td>
<td>59</td>
<td>57</td>
</tr>
<tr>
<td>R8</td>
<td>SFR</td>
<td>56</td>
<td>57</td>
<td>55</td>
</tr>
<tr>
<td>R9</td>
<td>SFR</td>
<td>54</td>
<td>54</td>
<td>53</td>
</tr>
<tr>
<td>R10</td>
<td>Park</td>
<td>62</td>
<td>62</td>
<td>60</td>
</tr>
<tr>
<td>R11</td>
<td>Park</td>
<td>58</td>
<td>58</td>
<td>57</td>
</tr>
</tbody>
</table>

SFR-Single Family Residence, MFR-Multi-Family Residence
Source: Illingworth and Rodkin, 2010

Given that the predicted noise increase with the project is less than a person can perceive, the project would not create a substantial noise impact.

The No Build Alternative would not cause an increase in noise levels and would not result in a reduction of noise levels.

Construction Impacts

Noise generated by project-related construction activities would be a function of the noise levels generated by individual pieces of construction equipment, the type and amount of equipment operating at any given time, the timing and duration of construction activities, the proximity of nearby sensitive land uses, and the presence or lack of shielding at these sensitive land uses. Construction noise levels would vary on a day-to-day basis during each phase of construction depending on the specific task being completed.

Construction phases anticipated with the project would include earthwork, construction of temporary and permanent retaining walls, utility relocation, and paving. Each construction phase would require a different combination of construction equipment necessary to complete the task and differing usage factors for such equipment.

Project construction activities would primarily be concentrated in the vicinity of just west of the roundabout, where the majority of earthwork is required. Construction noise would result from the operation of heavy construction equipment and arrival and departure of heavy-duty trucks. FHWA’s Roadway Construction Noise Model (RCNM v.1.0) was used to calculate the maximum and average noise levels anticipated during each phase of construction. Construction noise was calculated at a distance of 50 feet from construction activities. Calculated noise levels are shown in Table 11. Noise generated by construction equipment drops off at a rate of six dB per doubling of distance.
**Table 11. Construction Noise Levels at 50 feet**

<table>
<thead>
<tr>
<th>Construction Phase</th>
<th>Maximum Noise Level (L_{max}, dBA)</th>
<th>Hourly Average Noise Level (L_{eq(h)}, dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavation of Road Cut</td>
<td>84</td>
<td>86-87</td>
</tr>
<tr>
<td>Temporary Retaining Wall</td>
<td>82</td>
<td>82</td>
</tr>
<tr>
<td>Paving – South Side</td>
<td>83</td>
<td>84</td>
</tr>
<tr>
<td>Utility Relocation</td>
<td>81</td>
<td>82</td>
</tr>
<tr>
<td>Permanent Retaining Wall</td>
<td>81</td>
<td>82</td>
</tr>
<tr>
<td>Paving – North Side</td>
<td>83</td>
<td>84</td>
</tr>
<tr>
<td>Final Slope Grading</td>
<td>83</td>
<td>83-84</td>
</tr>
</tbody>
</table>

Source: Illingworth and Rodkin, 2010

Highway construction activities typically occur for relatively short periods of time as construction proceeds along the project’s alignment. Construction noise would be of most concern in areas where construction activities would be concentrated for extended periods of time or where noise levels from individual pieces of equipment are substantially higher than ambient conditions.

Ambient daytime noise levels at first-row (closest) receivers adjoining the project area range from 61 to 64 dBA L_{eq(h)}. Most construction phases would generate average noise levels that would exceed ambient daytime noise levels by 18 to 26 dBA L_{eq(h)}. Maximum instantaneous noise levels generated by typical construction activities would generally be at or below existing maximum noise levels generated by truck traffic along the highway.

Effective noise control during the construction of a project means minimizing noise disturbances to the surrounding communities. Combinations of impact minimization techniques, as outlined below, would be implemented during project construction to minimize noise-related impacts to residences and businesses located within or adjacent to the project area.

The No Build Alternative would not cause construction-related noise impacts.

**Avoidance, Minimization & or Mitigation Measures**

Construction would occur in compliance with the provisions set forth in Section 14-8.02 of Noise Control, included in the 2010 Caltrans Standard Specifications. These Standard Specifications are meant to minimize the impact from short duration construction noise, and include the following requirements:

- Do not exceed 86 dBA L_{max} at 50 feet from the job site activities from 9 p.m. to 6 a.m. (See the measure below for a description of limitations to working hours.)
• Equip internal combustion engines with the manufacturer-recommended muffler. Do not operate internal combustion engines on the job site without the appropriate muffler.

The following additional minimization measures would be implemented:

• The construction contractor would designate a noise disturbance coordinator who would be responsible for responding to complaints regarding construction noise. The coordinator would determine the cause of the complaint and ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the noise disturbance coordinator would be posted conspicuously on construction site fences, and would be included in the notice sent to nearby residents regarding the project’s schedule.

• Construction would occur between 7:00 a.m. and 7:00 p.m. on weekdays, and between 9:00 a.m. and 5:00 p.m. on weekends. Exceptions to the work hours may be necessary for limited periods in order to minimize lane closures on SR 116 (such as during activities to conform road and driveway grades in the vicinity of Hidden Lake Road), or to prevent an emergency or respond to an existing emergency. Other than work to prevent or respond to an emergency, exceptions to the construction hours would require prior approval by the County. Residents would be notified five days in advance of work outside the specified hours.

• Unnecessary idling of internal combustion engines within 100 feet of residences would be prohibited.

• Staging of construction equipment within 200 feet of residences would be avoided, and all stationary noise-generating construction equipment, such as air compressors, portable power generators, or self-powered lighting systems would be located as far practical from noise sensitive residences.
2.3 Biological Environment

The existing biological setting and potential for sensitive biological resources to be present at the project site is described in the Natural Environment Study (NES) and Biological Evaluation completed for the project (PRMD 2012b, 2012c). The project impact area includes the project footprint, including the existing right-of-way, proposed right of-way, areas of utility relocation, water quality treatment locations, and the proposed staging area. The staging area is located along the existing County roadway easement extending 200 feet south of the proposed fourth leg of the roundabout, and on a portion of Assessor Parcel Number (APN) 084-031-069 at the southeast quadrant of the intersection. A mitigation planting area at Sunset Beach was also evaluated for potential biological resources.

2.3.1 NATURAL COMMUNITIES

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat for species listed under the Federal Endangered Species Act is discussed below in the Threatened and Endangered Species Section 2.3.5. Wetlands and other waters are also discussed below 2.3.2.

Affected Environment

The potential for sensitive natural communities to be present at the project site is described in the NES. The project site consists primarily of existing roadside right-of-way and small portions of adjacent parcels containing rural residences, a vineyard, an undeveloped parcel, and commercial developments in downtown Forestville. The existing SR 116/Mirabel Road intersection is located directly east of a large hill crest. SR 116 passes through the hill on an existing road cut approximately 10 feet deep with steep side slopes. (See Appendix G for aerial views of the project.)

Roadside ruderal vegetation is the dominant plant community within the project footprint. Vegetation present is described by quadrant relative to the SR 116/Mirabel Road intersection.

Northeast quadrant - Vegetation is limited to lawn and other ornamental landscaping for the gas station that is located there.

Southeast quadrant - The roadside vegetation consists of weedy annual grasses dominated by wild oat (*Avena fatua*), with scattered individuals of coyote brush (*Baccharis pilularis*) and California blackberry (*Rubus ursinus*) on the road cut slopes.

Southwest quadrant - Between Mirabel Road and Hidden Lake Road, this quadrant consists of cut slopes of weedy species such as wild oat, wild radish (*Raphanus sativus*), rattlesnake grass (*Briza maxima*), and Queen Anne's lace (*Daucus carota*), with scattered coyote brush, California blackberry, and poison oak (*Toxicodendron*...
diversilobum). At the top of the cut slope is a line of trees and shrubs including Oregon oak (Quercus garryana), coast live oak (Quercus agrifolia), California black oak (Quercus kelloggii), and snowberry (Symphoricarpos albus). Beyond the top-of-slope is a vineyard. There is one location within the project footprint where a mature Oregon oak, coast live oak and two palm trees have been left standing within the vineyard. Along Hidden Lake Road, and on SR 116 west of Hidden Lake Road, vegetation consists of weedy species in the disturbed road shoulder including rattlesnake grass and wild radish, and landscaped plants and trees on a residential parcel fronting the roadway.

Northwest quadrant – Along the north side of SR 116, vegetation consists of planted manzanita and other ornamental shrubs associated with the shopping center, transitioning to weedy grasses (wild oat, Queen Anne’s lace) on the cut slopes further west. One large Oregon oak and a few smaller Coast live oaks are located along the road shoulder.

The staging area contains a predominantly non-native annual grassland, dominated by wild oat and other weedy species including black mustard (Brassica nigra), wild radish and Himalayan blackberry (Rubus armenicus). The staging area is subject to mowing and discing.

The Sunset Beach Regional Park mitigation planting area consists of a flat area and roadway embankment between the park’s parking lot driveway and River Road. The planting site was graded and seeded with erosion control mix when the park was constructed in 2008. The planting site is vegetated with primarily non-native grasses/forbs including rose clover (Trifolium hirtum), white clover (Trifolium repens), purple vetch (Vicia benghalensis), and Italian ryegrass (Lolium multiflorum). Limited numbers of native species (including poison oak and California poppy (Eschscholzia californica)) were present. No trees are located within the planting site.

There are no riparian corridors or streams that cross the project footprint, and the area to the north of SR 116 is developed with rural and urban residential and commercial uses. Therefore, the project site is unlikely to be used as a wildlife migratory corridor.

The only sensitive natural community with the potential to be impacted by the project is oak woodland, as described below. Though not a sensitive natural community, the project would impact roadside trees, which provide some biological value, and are also discussed below.

Oak Woodland

A remnant oak woodland is located largely outside of (to the south of) the proposed staging area. Oak woodlands provide ecological value by providing habitat for wildlife, moderating temperatures, reducing erosion, maintaining water quality, and contributing to nutrient cycling (California Resources Agency, 2001). CEQA requires counties to determine whether projects within their jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment (Public Resources Code 21083.4).

There is one oak tree in the staging area, and an oak tree adjacent to the proposed bioswale alignment south of the proposed fourth leg of the intersection. These oak trees are located at the edge of an area to the southeast that was identified as an open oak woodland in a previous biotic study (WRA, 2003). The oak woodland area is comprised of Oregon white oaks and California black oaks that form loose clusters within grassland habitat. Based on a review of aerial photographs, the staging area in and of itself does not exceed 10% cover of oaks, a
standard used for defining oak woodland (UC Integrated Hardwood Range Management Program, 2008). However, the adjacent areas meet this standard. Therefore, the oak tree within the staging area should be considered as part of the adjoining oak woodland.

Though many of the trees located along the top of the SR 116 roadway cut-slopes are oaks, most of them are located in a narrow, isolated strip (about 250 feet long and an average of 25 feet wide) between the existing roadway cut-slopes and a planted vineyard. Other oaks to be removed are isolated specimens at the top of the road cut, and are precluded from functioning as oak woodland. Roadway noise, the proximity of human activities at the intersection, and disturbance from the adjacent agricultural activities limits the habitat value of this strip. Space constraints limit tree regenerative opportunities. These trees will be discussed below.

**Roadside Trees**

Roadside trees occur along the roadway within or directly adjacent to the road right-of-way. These trees generally occur in narrow and isolated strips that are not contiguous with other habitat types (i.e., riparian woodland, oak woodlands, forest). They can be planted trees associated with the roadway or adjacent private property, natural recruits, or remnants of former habitats that were present prior to development of an area.

Roadside tree species affected by the project include Oregon white oak, California black oak, Coast live oak, palms, fruit trees, Coast redwood, big leaf maple, Monterey Pine, and planted California sycamore. These trees are located along the top of the roadway cut-slopes, in landscaped areas and along the frontages of residential properties.

**Environmental Consequences**

**Oak Woodland**

Though removal of oaks within the staging area is not proposed, the project could impact an oak woodland were equipment operated or materials stored within the tree drips lines, resulting in damage to the root structure directly or through compaction. The understory in this area is composed of predominantly non-native grasslands disturbed by mowing and discing. Use of areas outside the drip line would have minimal, temporary impact to woodland habitat values.

The No Build Alternative would not impact oak woodland.

**Roadside Trees**

Trees with trunks located in the project footprint or with a substantial portion of their root system located within the project footprint cannot be avoided by the project and would be removed. The project footprint cannot be altered to avoid tree removal, as the project requires widening of an existing road and meeting safety-related geometric requirements for the roundabout. The project would remove approximately 36 roadside trees, 27 of which are native tree species, including 23 oak trees. In general, roadside trees tend to have limited habitat value for most wildlife as they are exposed to a high level of disturbance from traffic. Nevertheless, oak trees are declining in number in the county. Oak trees and certain other native trees (including Coast redwood, big leaf maple and California bay) are recognized by the County as important resources in the County’s Tree Protection Ordinance. Though compliance with the ordinance is
not required for Caltrans projects or public projects of the County, it is used here to guide identification of trees that may require mitigation upon removal.

The No Build Alternative does not require tree removal.

**Avoidance, Minimization & or Mitigation Measures**

**Oak Woodland**

The following measures would be implemented to avoid and minimize impacts to oak woodland within/adjacent to the staging area.

- All trees within the identified staging area would be retained.
- Caltrans would require the contractor to install temporary plastic mesh-type construction fencing (Tensor Polygrid or equivalent) that is a minimum of four-feet tall between the construction zone and trees to be retained to prevent inadvertent damage. Fencing would be located at or outside tree drip lines. Fencing locations would be determined in consultation with PRMD and shown on plans when final design of the project is complete.
- No storage of oil, gasoline, chemicals or other potentially harmful substances would occur within the drip line of any tree, or any other location on the site from which such substances might enter the drip line.
- Following construction, all construction equipment and materials would be removed from the staging area.
- All areas within the staging area where soil has been exposed would be treated with erosion control BMPs to prevent loss of topsoil.

**Roadside Trees**

The following avoidance and minimization measures would be implemented to reduce impacts to roadside trees.

- Tree removal and pruning would be allowed where needed, but would be limited to that necessary to construct the project. Wherever feasible, vegetation would be tied back in lieu of cutting. Pruning activities would be conducted in conformance with American National Standard Institute (ANSI 2008) and International Society of Arboriculture (ISA 2008) standards.
- When excavating within the root zones of trees to be retained, care would be taken to minimize damage to the tree root system. Whenever feasible, excavation near trees using heavy equipment would be carried out by pulling the bucket or blade away from the tree (parallel to the roots) to minimize cracking and damaging of roots left in the soil. As roots are exposed during excavation, those that are one inch in diameter or greater would be cut cleanly at the surface of the excavation using hand tools. Roots would be cut progressively as they are exposed until the finish grade of the excavation is reached.
• Caltrans would require the contractor to install temporary plastic mesh-type construction fencing (Tensor Polygrid or equivalent) that is a minimum of four-feet tall between the construction zone and remaining street trees to prevent accidental disturbance. Fencing locations would be determined in consultation with PRMD and shown on plans when final design of the project is complete.

The following mitigation measure would be implemented for tree removal that cannot be avoided.

• To mitigate for the permanent loss of 27 native trees, the County would plant a minimum of 49 trees. The mitigation ratio used to determine the number of replacement trees was based on the size the tree (measured by diameter at breast height) and roughly based on the Sonoma Tree Protection Ordinance. Oak trees would be replaced with oak trees, to the maximum extent feasible. Other native species would be replaced with the same species, or native species suitable to the site. The project uses all of the existing right-of-way, and requires acquisition of additional right-of-way. Some replanting is possible within the existing or proposed right-of-way, but may be limited due to traffic sight distance requirements, safety issues, and utility conflicts. Trees would be replanted within one or more of the following locations:
  - In the center island of the roundabout;
  - Within right-of-way near the top of the roadway cut-slope on the south side of SR 116;
  - Around the parking area at Sunset Beach Regional Park in cooperation with Sonoma County Regional Parks;
  - Along the future West County Trail alignment, in cooperation with Sonoma County Regional Parks and private developers; or
  - On private property along the frontage of SR 116 within the project limits, if desired by the property owners. (For each tree planted on private property, a duplicate tree would be planted at Sunset Beach Regional Park to ensure the total required number of trees remain even if a private property owner later removes the tree. These duplicate trees would be in addition to the minimum planting requirement).

Trees would be planted in the late fall/early winter following construction to take advantage of seasonal rains, and would be maintained (i.e., watering, herbivore protection, weed control) for three years after installation, with a minimum survival requirement of 80% at the end of the maintenance period.

No replanting is proposed for loss of non-native trees.
2.3.2 WETLANDS AND OTHER WATERS

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344) is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army of Engineers (USACE) with oversight by the United States Environmental Protection Agency (U.S. EPA).

USACE issues two types of 404 permits: Standard and General permits. There are two types of General permits, Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

There are two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE’s Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (U.S. EPA 40 Code of Federal Regulations [CFR] Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this EO states that a federal agency, such as the FHWA and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game (CDFG), the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB). In certain circumstances, the Coastal Commission (or...
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Bay Conservation and Development Commission or Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the CWA. Please see Section 2.2.1, Water Quality and Storm Water Run-off, for additional details.

Affected Environment

The project site is located in an upland area at the top of a hill crest. Based on site surveys performed for the NES, no streams, ponds or other water bodies are present within the project site, and the project site does not contain wetland characteristics.

Short sections of roadside ditch are present on Hidden Lake Road. The shoulder on the north side of SR 116 west of Hidden Lake Road alternatives between dirt shoulder and a poorly defined roadside ditch. These ditches are considered to be entirely in uplands. These ditches are constructed for the purposes of providing road relief for storm water. Roadside ditches constructed in uplands are not regulated by the USACE as Waters of the U.S. Philip Shannin of the USACE concurred that the ditches are not jurisdictional during a site visit on February 11, 2010.

As shallow, constructed road relief ditches with limited to no hydrophytic vegetation and lacking wetland hydrology or a well defined bed or bank, the ditches do not qualify as Waters of the State. Therefore, a State 401/WDR permit would not be obtained for this project. A letter was submitted to the RWQCB on October 4, 2011 requesting concurrence with this determination. Work in these ditches also does not require a 1602 Streambed Alteration Agreement from CDFG.

Water features located downslope of the project, outside of the project limits, include Green Valley Creek approximately 0.5 miles west of the project limits, an unnamed tributary to Green Valley Creek approximately 0.4 miles south of the staging area, a drainage swale paralleling the West County Trail approximately 400 feet southeast of the staging area, and roadside ditches west of the project limits on SR 116.

The Sunset Beach Regional Park planting area consists of a graded, flat area lacking wetland characteristics.

Environmental Consequences

The project would have no direct impacts on wetlands or other waters, as there are no wetlands or other waters present in the work area. Measures have been included in the project to avoid
impacts to wetlands or waters from sedimentation from eroded or loose soils generated by construction, or oil, fuel or other pollutants from operation of construction equipment.

The No Build Alternative would not impact wetlands or other waters.

Avoidance, Minimization & or Mitigation Measures

The construction boundary would be marked with high visibility fencing a minimum of 48 inches tall, and all natural areas outside the construction zone would be designated as Environmentally Sensitive Areas (ESAs). Delineating the ESA would be designated as the “First Order of Work” in the project specifications. Location of the ESA fencing would be determined by a qualified biologist in cooperation with PRMD staff and shown on the project plans as a thick, solid black boundary. All work would be contained within the construction zone, and no work would be allowed in any area designated as an ESA. All fencing would be removed upon project completion.

Continuous silt fence would be installed along the construction boundary to prevent sediment or other substances from exiting the work area. The silt fence would be used in conjunction with the ESA fencing.

Spill control absorbent material would be in place under any construction equipment being stored, refueled, or maintained in the staging area.

The avoidance and minimization measures in Section 2.2.1, Water Quality and Storm Water Run-off, including implementation of a SWPPP and revegetation of cut-slopes, would further minimize indirect impacts to wetlands or waters.

2.3.3 PLANT SPECIES

Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species Section 2.3.5 in this document for detailed information regarding these species.

This section of the document discusses all the other special-status plant species, including CDFG species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531, et seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913,
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

and the California Environmental Quality Act (CEQA), Public Resources Code, Sections 2100-21177.

Affected Environment

The analysis of special status plant species is based on the NES and Biological Evaluation completed for the project. The identification of special status plant species with potential to occur at the project site was based on:

- the USFWS Species List Database and CNDDDB occurrences for the Camp Meeker and Guerneville USGS quadrangles,
- known plant occurrences in the CNDDDB within a 5-mile radius of the project site, and a 5-mile radius of the Sunset Beach Regional Park replanting area,
- the California Native Plant Society’s (CNPS) Inventory of Rare and Endangered Plants for the Camp Meeker and Guerneville USGS quadrangles, and
- field reconnaissance surveys and flowering period surveys completed for the project.

Appendix H lists these species and describes their potential presence at the project site.

As described in Section 2.3.1, Natural Communities, the dominant vegetation communities in the project footprint include roadside ruderal vegetation and non-native annual grassland. The project site lacks many of the habitat types required by the special status plants listed in Appendix H, such as serpentine soils, chaparral, coastal scrub, vernal pools, marshes, seeps, wetlands, and bogs. Non-native grassland is present in the staging area and along the alignment of the south leg of the roundabout, and could provide habitat for grassland species. However, due to a high percentage of cover of exotic grasses, habitat quality for these species is low. The Sunset Beach Regional Park replanting area was graded and revegetated with an erosion control mix in 2008, and lacks suitable habitat for special status plants.

No special status plants were identified in flowering surveys of the project site, as documented in the NES. At least one of the plant surveys fell within the blooming period for each of the special status plant species identified from the regional record search.

Environmental Consequences

The project would not directly impact special status plant species. Loss of non-native annual grassland would not result in a substantial adverse impact to special status plant species, due to the low quality of the habitat.

The No Build alternative would not impact special status plant species.

Avoidance, Minimization & or Mitigation Measures

None proposed.
2.3.4 ANIMAL SPECIES

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration (NOAA) Fisheries and the CDFG are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.5 below. All other special-status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the Fish and Game Code
- Section 4150 and 4152 of the Fish and Game Code

Affected Environment

The analysis of special status animal species is based on the NES and Biological Evaluation completed for the project. The identification of special status animal species with potential to occur at the project site was based on:

- the USFWS Species List Database and CNDDB occurrences for the Camp Meeker and Guerneville USGS quadrangles,
- known animal occurrences in the CNDDB within a 5-mile radius of the project site and a 5-mile radius of the Sunset Beach Regional Park replanting area, and
- field reconnaissance surveys and habitat assessments completed for the project.

Appendix H lists these species and describes whether or not they have the potential to be present at the project site. Of those identified from the database search, western pond turtle (*Emys marmorata*), pallid bat (*Antrozous pallidus*), white-tailed kite (*Elanus leucurus*), and other migratory birds have the potential to be present at the project site.

**Western pond turtle**

Western pond turtle is a California Species of Special Concern. Individual turtles generally live in ponds, lakes, slow moving streams, or permanent pools alongside streams with abundant vegetation for cover. Pond turtles require basking sites such as partially submerged logs, rocks, floating vegetation, or open mud banks (CDFG, 2000). They build nests in sandy banks on slow
moving streams, or away from streams, in friable soil with relatively high humidity. In addition,
turtles can use uplands for refugia, digging in friable loam soils and leaf-duff to hide.

No western pond turtle has been observed within the project site during field visits. The nearest
occurrence from the CNDDB is approximately 1.4 miles from the project on the mainstem of the
Russian River. Based on site surveys, no aquatic habitat for western pond turtle is present at
the project site. As described in the NES, water resources to the south and east of the project
site could provide potential turtle habitat, including agricultural ponds, an unnamed tributary to
Green Valley Creek, and a drainage swale located along the West County Trail corridor
approximately 400 feet southeast of the staging area.

The staging area could be used for an upland refuge or for nesting due to its friable soils, south-
-facing slopes, and location near the drainage swale.

The permanent project footprint consists of roadway cut slopes, residential yards, vineyard and
dry grassland lacking in moisture, and does not provide suitable nesting habitat.

Turtles may try to disperse north across the project area from nearby aquatic habitats, but reach
a deterrence to dispersal at the existing SR 116 roadway and cut slopes. There is a lack of
aquatic habitats north of SR 116 in the vicinity of the project, so turtles are unlikely to disperse
from the north to the south across the project site.

There are CNDDB occurrences of western pond turtle along the Russian River approximately
one mile from the Sunset Beach Regional Park planting site. The planting site is approximately
400 feet from the active channel of the Russian River. For these reasons, there is relatively low
potential that turtles could use the planting site for nesting. The site provides friable soils and
south-facing sun exposure preferred by turtles, though they would have to cross the parking lot
driveway, and encounter potentially disturbance by park users and their pets.

**Pallid Bat**

The pallid bat is a California Species of Special Concern. Pallid bats occupy a variety of
habitats at low elevation including grasslands, shrublands, woodlands and forests. It is most
common in open, dry habitats with rocky areas for roosting. Pallid bat day roosts are in caves,
crevices, mines, and occasionally hollow trees and buildings. Night roosts can be more open,
and can include porches and open buildings. Most pallid bats are social, roosting in groups of
20 to over 100. They are very sensitive to disturbance of roosting sites. Pallid bats may be
present in the area at any time of year (Zeiner, et. al, 1990). The precise location of the nearest
CNDDB occurrence (specimens collected in 1954) is unknown, but is mapped as “the general
vicinity of Forestville.”

Trees within the project footprint were examined for possible roosting cavities and evidence of
bat roosting during site visits for the NES. No cavities or evidence of roosting was observed,
however, survey access to trees on APN 084-031-072 was not available. These trees would be
inspected prior to removal.

There are no trees or other roosting habitat present at the Sunset Beach mitigation planting site.

**Special Status and Migratory Birds**
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

The vegetation at the project site may provide nesting, foraging, and resting habitat for a variety of bird species, including raptors and passerine birds (perching birds, including song birds).

The Migratory Bird Treaty Act of 1918 makes it unlawful at any time, by any means, or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests occupied by migratory birds during the breeding season.

In addition, some birds in California are recognized as Species of Special Concern, or are Fully Protected Species per Fish and Game Code Section 3511. Of the special status bird species identified from the database search performed for the NES, white-tailed kite has potential habitat present at the project site.

White-tailed kite is a year-round resident of coastal and valley lowlands. White-tailed kite forages in undisturbed, open grasslands, meadows, farmlands and emergent wetlands. It nests near the top of dense oak, willow, or other tree stands, in close proximity to open foraging habitat.

White-tailed kite was not observed at the project site during surveys. However, oak trees located in or adjacent to the project site could provide suitable nesting habitat, and grasslands in and adjacent to the project site could provide foraging habitat.

**Environmental Consequences**

**Western Pond Turtle**

Construction equipment and grading activities for the project could harm turtles attempting to disperse north across the site from adjacent aquatic areas. The project would not impact aquatic habitat for western pond turtle, but would have temporary impacts on potential upland nesting/refugia areas located in the staging area. These areas would be unavailable to turtles during construction. However, nesting/refugia habitat would be available downslope of the staging area, in closer proximity to aquatic habitat areas. The permanent project footprint is not suitable habitat for turtles due to a lack of aquatic resources, lack of moisture, and disturbance from residential, commercial, agricultural and roadway uses.

Western pond turtle could be impacted indirectly if pollutants or soils from project construction, temporary soil stockpile, or roadway operation were allowed to wash into aquatic habitats downslope of the project.

The No Build alternative would not impact western pond turtle.

**Pallid Bat**

The project would not impact any known roosting sites. The project would require removal of trees. Trees in the project limits lack cavities suitable for roosting at this time, though it was not possible to survey all trees. The trees proposed for removal are located along the road right-of-way and the frontages of adjacent parcels. The tree removal areas have a moderate level of disturbance from human activity associated with roadway use, farming activity and residential use. Due to the lack of cavities and presence of human disturbance, the trees to be removed have very limited potential to be used by pallid bat. Trees located outside of, but adjacent to,
the staging area could provide potential roosting habitat for pallid bat. Construction activities (i.e., noise, human activity) adjacent to these trees could disturb roosting bats.

The No Build alternative would not impact pallid bat.

**Special Status and Migratory Birds**

The project would require removal of 36 trees within and adjacent to the existing right-of-way. No trees would be removed within the staging area. Trees along the road shoulder generally have low value for nesting due to disturbance from vehicles and human activity. Other trees in the vicinity of the project provide alternative nesting habitat.

However, there is the potential that nesting birds use vegetation that would be removed for the project. Vegetation removal during times of nesting, or construction activities in the immediate vicinity of active nests, could impact white-tailed kite or other protected migratory birds.

The No Build Alternative would not impact special status or migratory birds.

**Avoidance, Minimization & or Mitigation Measures**

**Western Pond Turtle**

- Twenty-four hours prior to the start of construction, a qualified biologist would survey the work area and move any turtles to suitable nearby habitat. Exclusionary fencing would be installed along the southern work limits and around the staging area to prevent turtles from entering the work area. Location of the exclusionary fencing would be determined by the qualified biologist in cooperation with Sonoma County PRMD staff and shown on the project plans. (Exclusionary fencing may be silt fence as described in Section 2.3.2, Wetlands and Other Waters).

- Construction workers shall be briefed on the potential presence of western pond turtle in work area and be informed of avoidance measures to be employed. If turtles are found in the project limits, work would be temporarily stopped in the area of the find until a qualified biologist moves the individual(s) to suitable habitat away from the project.

- Prior to tree planting at the Sunset Beach planting mitigation site, a qualified biologist shall survey the area for pond turtle nests. Identified nests would be avoided.

The measures in 2.2.1, Water Quality and Storm Water Run-off, and 2.3.2, Wetlands and Other Waters, would minimize indirect water quality impacts that could affect western pond turtle.

**Pallid Bat**

- Prior to construction activities within 100 feet of trees with potential to support special-status bats, a qualified biologist would survey for bats. If no evidence of bats (i.e., visual or acoustic detection, guano, staining, strong odors) is present, tree removal activities may be conducted using the two-phased tree removal system described below

  - The two-phased tree removal system would be conducted over two consecutive days. The first day (in the afternoon), limbs and branches would be removed by a
tree cutter using chainsaws or other hand tools only. Limbs with cavities, crevices or deep bark fissures would be avoided, and only limbs without those features would be removed. On the second day, the entire tree would be removed.

- If a maternity roost is identified within 100 feet of the project activities during preconstruction surveys, a no-disturbance buffer acceptable in size to the CDFG would be created around the bat roost until the roost is no longer occupied. Bat roosts initiated within 100 feet of the project area after construction has begun are presumed to be unaffected by project-related disturbance, and no buffer would be necessary. However, the “take” of individuals (e.g., direct mortality of individuals, or destruction of roosts while bats are present) is prohibited.

- If a non-breeding hibernacula is found in a tree scheduled to be removed, the County would apply for a MOU with CDFG. The bats would be safely evicted within the guidelines of the MOU under the direction of a qualified bat biologist by opening the roosting area at dusk to allow air flow through the cavity, or by an alternative measure that does not result in adverse impacts. Tree removal would occur no later than the following day (i.e., there would be not less than one night between initial disturbance for airflow and the removal) using the two-phase removal system described above. This action should allow bats to leave during dark hours, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight.

- Trees being used as a night roost would only be removed during daylight hours, at least one hour after sunrise and one hour before sunset using the two-phase removal system described above.

**Special Status and Migratory Birds**

- Caltrans would only allow vegetation to be removed from the project site after August 31, and before February 15 of the following year, when bird nesting is most likely avoided, unless a qualified biologist has inspected the site and determined that there are no nesting birds present.

- If work is conducted during the nesting season, pre-construction surveys for nesting birds within the project site (including staging area) would be conducted no more than three days prior to tree removal/ground disturbing activities. If an active nest is found, a qualified biologist, in conjunction with CDFG and the USFWS, shall determine the appropriate buffer size and delineate the buffer using ESA fencing, pin flags, yellow caution tape, and etc. During construction, the qualified biologist would conduct regular monitoring (at agency approved intervals) to evaluate the nest(s) for potential disturbances associated with construction activities. Construction within the buffer would be prohibited until the qualified biologist determines the nest is no longer active. If an active nest is found after the completion of the pre-construction surveys and after construction begins, all construction activities would stop until a qualified biologist has evaluated the nest and erected the appropriate buffer around the nest. If establishment of the buffer is not feasible, CDFG and the USFWS would be contacted for further avoidance and minimization guidelines.
2.3.5 THREATENED AND ENDANGERED SPECIES

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement, a Letter of Concurrence and/or documentation of a no effect finding. Section 3 of FESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits “take” of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.
Affected Environment

The analysis of threatened and endangered species is based on the NES and Biological Evaluation completed for the project. The identification of threatened and endangered species with potential to occur at the project site was based on a search of the USFWS Species List Database and CNDBB occurrences for the Camp Meeker and Guerneville USGS quadrangles, a search of known occurrences in the CNDBB within a five-mile radius of the project site and a five-mile radius of the Sunset Beach Regional Park replanting area, the California Native Plant Society’s (CNPS) Inventory of Rare and Endangered Plants for the Camp Meeker and Guerneville USGS quadrangles, field reconnaissance surveys, and plant surveys completed for the project. Appendix H lists the species identified from the database search. Species lacking nearby occurrences and/or lacking potential habitat within or adjacent to the project site are addressed in the appendix. Additionally, no threatened and endangered plants were identified during plant surveys completed for the project, as described in Section 2.3.3, Plant Species.

Species requiring further explanation are discussed below, including Sonoma alopecurus (Alopecurus aequalis var. sonomensis), California red-legged frog (Rana draytonii), and California tiger salamander (Ambystoma californiense).

**Sonoma alopecurus**

Sonoma alopecurus is federally listed as endangered. It is found in freshwater marshes, swamps, and riparian scrub with other wetland species. The nearest occurrence of Sonoma alopecurus from the CNDBB is from 1972 at the Forestville Marsh, about 0.5 miles east of Forestville. The exact location is unknown, and is mapped as a “best guess” by the CNDBB. The occurrence is mapped 0.8 miles from the project footprint. Another nearby occurrence, at Ross Marsh, approximately 1.2 miles from the project and staging area, is believed extirpated (removed from the area). Due to the proximity and imprecise nature of the first occurrence, the project area was evaluated for potential presence of the species.

The main project footprint, Staging Area 1, and the Sunset Beach Regional Park replanting site do not contain any wetland, freshwater marsh, swamp, or riparian scrub habitat suitable for Sonoma alopecurus. No individuals of Sonoma alopecurus were found during plant surveys for the project. Based on the surveys and lack of suitable habitat, Sonoma alopecurus is not expected to be present on site.

**California Red-legged Frog**

The California red-legged frog (CRLF) (Rana draytonii) is federally listed as threatened under FESA throughout Sonoma County, and is a California Species of Special Concern. Federally designated Critical habitat was established for CRLF on March 17, 2010 and resides entirely outside of the project vicinity. The project is located approximately 11.3 miles away from the nearest designated critical habitat area, located in coastal Marin County.

For CRLF, essential habitat must contain the Primary Constituent Elements (PCEs), which generally include breeding aquatic habitat, non-breeding upland dispersal habitat. Breeding habitat consists of ponds with adequate depth and hydrology, as well as slow moving streams with pond-like vegetation. CRLF requires 11-20 weeks of permanent water for larval development. Since breeding in this region is generally late January to late February, depending upon weather conditions, streams with high seasonal flows are not used for breeding by CRLF due to high stream velocities.
Non-breeding habitat typically includes riparian habitat with adequate moisture for survival during the summer months, cover to provide protection from high temperatures during extremes in the local climate, and protection from predators with features like deep pools, and/or dense vegetation. CRLF may use riparian habitat and uplands adjacent to aquatic habitat for foraging, shelter, cover, and non-dispersal movement (USFWS, 2010a). Studies have found CRLF using upland habitats ranging between 50 and approximately 300 feet away from aquatic habitat for prolonged periods (USFWS, 2010a). Upland habitat used by CRLF includes structures that provide shade, moisture, and cooler temperatures. Examples of structures include rocks or boulders, organic debris, and manmade features (e.g., drains, troughs) (USFWS, 2010a). CRLF may aestivate (become dormant) in summer or dry weather in mammal burrows or leaf litter (USFWS, 2010b).

While migration/dispersal corridors for CRLF are not necessarily restricted to specific landscape features, roadways and areas that lack cover are obvious hazards to CRLF movement. Typically, forested riparian communities, grasslands, open meadows, and agricultural fields are known to be used as migration corridors by CRLF.

There are no occurrences of CRLF listed in the CNDDB within five miles of the project site. The closest known occurrence is approximately 7.9 miles northwest of the project site, and 5 miles northwest of the Sunset Beach replanting area. Maximum dispersal distances for CRLF are not well documented in scientific literature. However, the farthest movement reported to date is 1.7 miles in coastal Santa Cruz County (Bulger, et.al 2003). One recent study (Fellers and Kleeman, 2007) found that adult CRLF individuals in Marin County moved a median distance of 0.09 mile away from breeding ponds, roughly the distance to the nearest suitable habitat area (i.e., most didn't move further than they needed to). The greatest presumed distance traveled was estimated at 1.7 miles. Although 1.7 miles is not a universally accepted maximum dispersal distance for the species, it can supply a useful benchmark to help determine the likelihood that CRLF might migrate through the project area. Due to the great distance between known occurrences and the project area, and the lack of suitable habitat within the project area, it is very unlikely CRLF would move through the project area. Nevertheless, CRLF was identified on the USFWS quadrangle list for the project area, so the project was evaluated for potential CRLF habitat on November 6, 2009.

The permanent project footprint and staging area do not provide suitable breeding habitat for CRLF, as there are no ponds or streams within these areas.

Additionally, the permanent project footprint and staging area do not provide summer holding (non-breeding) habitat for CRLF. They are located well upslope of the nearest aquatic features (see below), and are lacking in moisture. The staging area is subject to mowing (which limits available cover), and had been recently mowed during an August 2009 site visit.

Water resources in the general vicinity, but outside of the project area were analyzed for their potential to provide aquatic breeding and/or summer holding habitat for CRLF. The following features may provide habitat for CRLF:

- Agricultural ponds located approximately 0.3 miles south of the project footprint and Staging Area 1. Based on aerial photograph review and a previous study for an adjacent development (WRA, 2003), these features are surrounded by emergent and/or scrubby riparian vegetation and may provide suitable breeding habitat for CRLF;
• An unnamed tributary to Green Valley Creek located approximately 0.3 miles from the project footprint and Staging Area 1 could provide summer holding habitat, and could serve as a migratory corridor for CRLF; and

• The riparian vegetation and shallow drainage swale parallel to the West County Trail (approximately 400 feet southeast of Staging Area 1), and adjacent wetland habitat to the east could serve as summer holding habitat for CRLF.

The area to the north of SR 116 within the project limits is developed with a mix of urban and rural residences, and lacks aquatic features that would provide suitable breeding or summer holding habitat for CRLF. Therefore, CRLF is not expected to use the project impact area as a seasonal movement or dispersal corridor.

The Sunset Beach replanting area lacks aquatic resources and does not provide CRLF breeding habitat. It does not provide summer holding habitat for CRLF because it lacks cover and moisture. It is unlikely the site would be used for foraging or dispersal due to a lack of breeding ponds or streams suitable for breeding in the vicinity.

**California Tiger Salamander**

The Sonoma County population of the California tiger salamander (CTS) is federally listed as endangered and State listed as threatened. The Sonoma population of CTS is geographically isolated from other CTS populations, and is thought to be centered in the Santa Rosa Plain (as mapped by the Santa Rosa Plain Conservation Strategy [Strategy] and the Programmatic Biological Opinion [PBO]). This regulatory boundary was determined to represent the probable remaining potential habitat range of the Sonoma County population (as agreed by the agencies involved in development of the Strategy and PBO); outside of this boundary, CTS are not expected to occur in the county. The salamander occurs in long-lasting vernal pools and seasonal ponds, and associated uplands within about 1.3 miles of suitable breeding pools.

The project is located approximately three miles west of designated CTS critical habitat. There are no known occurrences of CTS within five miles of the project site, staging area, or the Sunset Beach Regional Park replanting site (CNDDB, 2011). The nearest occurrence is approximately 5.9 miles away from the project site, which is well beyond the 1.3-mile distance that CTS are known to disperse from breeding sites (Sweet, 1998). There is no suitable vernal pool or other seasonal pond habitat present in any areas impacted by the project. The roadside ditches in the vicinity of Hidden Lake Road are ephemeral do not hold water long enough to provide breeding habitat.

**Environmental Consequences**

**Sonoma Alopecurus**

Sonoma alopecurus and suitable habitat are not present and the project would have no effect on Sonoma alopecurus.

**California Red-legged frog**

Due to the distances to known occurrences that could be potential source populations for CRLF and lack of habitat connectivity to these populations, lack of suitable habitat in the project impact
area, and lack of suitable aquatic features and habitat connectivity north of SR 116, CRLF is not expected to be present in the project impact area. The project would have no effect on CRLF.

*California Tiger Salamander*

No suitable habitat for CTS is present at the project site, and the site is outside the known range of the Sonoma County population of CTS. The project would have no effect on CTS.

**Summary**

The project would not affect any threatened or endangered plant or animal species.

The No Build alternative would not affect threatened or endangered plant or animal species.

**Avoidance, Minimization & or Mitigation Measures**

None proposed.

### 2.3.6 INVASIVE SPECIES

**Regulatory Setting**

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Federal Highway Administration guidance issued August 10, 1999 directs the use of the state’s noxious weed list to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project. Though this project is not subject to NEPA, the noxious weed list can provide guidance in determining whether the project may result in the spread of invasive species.

**Affected Environment**

Two species from the noxious weed list were identified at the project site (USDA, 2010a), and are listed Table 12.

The California Invasive Plant Council’s Invasive Plant Inventory ([http://www.cal-ipc.org/ip/inventory/index.php](http://www.cal-ipc.org/ip/inventory/index.php)) lists plants categorized as having high, moderate, or low impacts based on their documented impacts, potential to spread, and the range of habitats they tolerate. Multiple species with a moderate ranking are present in varying amounts at the project site, and are listed in the NES. The staging area is already dominated by non-native grassland species on the Cal-IPC list, including wild oat (*Avena fatua*). No species with a “high” Cal-IPC ranking were observed at the project site.
Table 12. Invasive Species Present at the Project Site

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Location</th>
<th>CA Noxious Weed List Ranking</th>
<th>Cal-IPC Ranking</th>
<th>Ecological Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italian thistle</td>
<td><em>Carduus pycnocephalus</em></td>
<td>Roadside ditch</td>
<td>C*</td>
<td>Moderate</td>
<td>Invades forest, scrub, grasslands, woodland. Very widespread. Can increase fire frequency and inhibit seedling recruitment (Cal-IPC, 2006)</td>
</tr>
<tr>
<td>field bindweed</td>
<td><em>Convolvulus arvensis</em></td>
<td>Staging Area</td>
<td>C</td>
<td>None</td>
<td>Primarily an agricultural weed.</td>
</tr>
</tbody>
</table>

* The California Department of Food and Agriculture (CDFA) formal definition of a “C list” plant is: A pest of known economic or environmental detriment and, if present in California, it is usually widespread. C-rated organisms are eligible to enter the state as long as the commodities with which they are associated conform to pest cleanliness standards when found in nursery stock shipments. If found in the state, they are subject to regulations designed to retard spread or to suppress at the discretion of the individual county agricultural commissioner. There is no state enforced action other than providing for pest cleanliness. (CDFA, 2010)

Environmental Consequences

Invasive species frequently colonize areas disturbed by human activity, such as construction areas. The invasive non-native species present at the project site are widespread throughout the state, are common along disturbed roadside areas, and are prevalent in areas adjacent to the project footprint. Therefore, it is not feasible to prevent these species from re-establishing in areas disturbed by the project over the long-term. However, the avoidance and minimization measures included below would prevent the spread of invasive species to new areas outside the project limits and minimize reinfestation of areas disturbed by the project while native landscaping is being established.

The No Build alternative would have no impact related to invasive species.

Avoidance, Minimization & or Mitigation Measures

Caltrans shall require the contractor to regularly inspect and clean construction equipment to prevent spread of plant materials and/or seeds.

Erosion and sediment control seed mix shall not contain species listed as noxious weeds.

In replanting areas, Caltrans would implement a three-year plant establishment period to allow native species to become established. Control methods for invasive species and maintenance intervals shall be established based on recommendations of a person/company qualified in ecological restoration and invasive species control.

Chemical control methods, if needed, would be limited to those considered non-toxic to aquatic life.
2.4 Cumulative Impacts

Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines, Section 15130, describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under CEQA, can be found in Section 15355 of the CEQA Guidelines.

Projects Considered for Cumulative Impacts

To evaluate the potential for cumulative impacts, a list of projects was defined through review of private development applications at Sonoma County PRMD and public works projects at DTPW. The Governor’s Office of Planning and Research CEQAnet database was also reviewed to identify projects for which notices of preparation or completion of an environmental document were filed with the State Clearinghouse. The study area for the cumulative impacts assessment varies based on the resource affected and considers planned, approved and recently completed projects.

The following projects were considered in the analysis. The analysis is based on the environmental effects of the proposed project as described in their approved CEQA documents, aerial photograph review and general knowledge of the project site:

- Forestville Square mixed use development (parcels 084-031-069, 084-031-070, and 083-080-001). A Mitigated Negative Declaration was adopted for the project, and the project was approved by the Sonoma County Board of Supervisors on June 8, 2010. This development, located at the southeast quadrant of the SR 116/Mirabel Road intersection, would include a town green, commercial space, high density residential housing, and a boutique hotel. Although the future of this development is uncertain due to a change in property ownership, as a project that has received approval from the County, it is included in the analysis.
• Crinella tentative subdivision map (parcels 084-031-072 and 084-031-071). A Mitigated Negative Declaration was adopted for the project, and the project was approved by the Sonoma County Board of Supervisors on May 15, 2007. This project, located at the southeast quadrant of the SR 116/Mirabel Road intersection, would create an 11-lot subdivision consisting of clustered residential parcels, one large vineyard parcel (the area is already planted in vines), and a lot zoned for limited commercial development.

• Mirabel Road Shoulder Widening Phase I (SR 116 to Davis Road) (County of Sonoma). This project would construct shoulder improvements on Mirabel Road to improve pedestrian and bicycle access. The project is funded and included in the County’s current capital project plan list. The County has recently begun preliminary design activities, but detailed design is not available, environmental review has not been initiated, and the project is not yet approved. Future phases of shoulder widening are identified in Measure M, but are not yet funded nor included in the capital project plan list.

• Canyon Rock Quarry Expansion Project. Canyon Rock Quarry is located approximately 0.5 miles west of the western project limits. This project consists of a 20-year use permit and reclamation plan to expand existing quarry operations on 35 ± acres to allow the quarry to annually export a maximum of 562,500 cubic yards (cy) of aggregate material, of which 500,000 cy could consist of material mined on-site, and annually import up to 62,500 cy of material, including recycled material. An EIR was completed for the project. The use permit was approved by the Sonoma County Board of Supervisors in 2008 subsequent to litigation, but the quarry is not yet operating under the terms of the new permit.

• Blue Rock Quarry Expansion Project. Blue Rock is located approximately 0.75 miles west of the western project limits. This project, approved by the Sonoma County Board of Supervisors in January of 2007, consists of a use permit and reclamation plan to expand the quarry operation by approximately 24 acres and to increase annual production quantities from 150,000 cubic yards to 400,000 cy. An EIR was completed for the project. The quarry is currently operating under the terms of the new permit.

The roundabout project includes a fourth leg that could connect to the Forestville Bypass (Bypass) in the future. The Bypass project is identified in the Sonoma County General Plan 2020 and Measure M. However, it is not included in the County’s current capital project plan list, and substantial funding is not currently available. Design and environmental review for the project has not been initiated. The Bypass was considered in traffic modeling for the project in order to determine whether the roundabout design would function properly both with and without the Bypass in place for the design year 2035. However, it is not otherwise included in the current cumulative analysis, as the Bypass construction is not reasonably foreseeable at this time.

**Environmental Consequences**

The projects listed above were considered together with the project for the potential for cumulative impacts. Only those resource areas for which the project has the potential to contribute to a cumulative impact are discussed.
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Farmlands

The project, the approved Forestville Square project, and the Crinella Subdivision would convert mapped Farmland of Local Importance to non-agricultural use. However, as described in Section 2.1.3, Farmlands, CEQA describes farmland as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, none of which would be converted by these projects. In addition, the primary general plan land use designation and zoning of impacted parcels for the project and the two development projects is not agriculture. Therefore, there is not a cumulative impact to farmlands.

Visual/Aesthetics

Projects with the potential to impact the same viewshed as the project were considered in the visual analysis.

The two quarry projects are not within the project viewshed.

Due to intervening topography, the building envelopes associated with the Crinella subdivision are minimally visible to not visible from the roundabout project viewshed. Mitigation measures in the adopted Mitigated Negative Declaration (MND) for the subdivision, including height restrictions on structures and retention of existing trees, further reduce visibility of subdivision project features. Therefore, the subdivision project would not contribute to cumulative impacts with the project, and is not considered further in the analysis.

A short section of the Mirabel Road Shoulder Widening project would be visible from the project and vice versa. Although detailed design is not available, work would likely include limited grading, the addition of asphalt shoulders, and some limited tree removal. Based on a review of the existing right-of-way, substantial tree removal for the Mirabel Road Shoulder Widening project in the vicinity of the roundabout is not required. In addition, opportunities may exist for replacement tree planting within the County owned right-of-way.

The Forestville Square development, located at the southeast quadrant of the intersection, would be visible in the project viewshed. As determined in the adopted MND, the Forestville Square Project would not have a significant impact to visual resources, as it would be required to go through the County Design Review process, replace existing trees per the County’s tree protection ordinance, and comply with the adopted mitigation measure to implement an exterior lighting plan requiring downward directed/shielded lighting that does not spill on to adjacent properties.

The proposed roofline of Building A of the Forestville Square development is shown in Figure 7 of this Initial Study. Building A is the structure closest to and most prominently visible from the roundabout. The roofline is depicted in red to provide a sense of scale of the two projects together. The façade, as well as landscaping proposed as part of the development, is shown as semi-transparent in order to allow for analysis of the visual impacts of the roundabout project both with and without the development.

Landscaping proposed as part of Forestville Square would screen portions of the buildings from view for people approaching the roundabout from the west. Landscaping within the center circle of the roundabout would also screen portions of the building. The two projects together would
increase the appearance of a transition from the rural surroundings to the developed downtown area. However, the Forestville Square MND and conditions of approval include the aesthetic requirements described above, and the roundabout would also include landscaping and aesthetic treatment suitable to the surroundings as described in the avoidance, minimization, and mitigation measures in Section 2.1.8 of this Initial Study.

Based on the above, cumulative impacts to visual resources would be less than significant.

**Noise**

The project does not generate new traffic. Therefore, any changes in roadway noise attributable to the project are the result of changes in roadway alignment or traffic speeds. The maximum increase in noise at any receptor with the project is one dBA. While the noise modeling did not include specific local projects in the analysis, a conservative growth rate of 3.7% per year was applied to the existing traffic data to reflect projected growth and development in the project area. When the 2013 noise levels with the project are compared to the 2013 No Build (i.e. when growth is factored in), the noise levels with the project are higher (by one dBA) at only one receptor compared to the No Build. Noise impacts from the project are not cumulatively considerable.

**Biological Resources**

**Affected Environment**

The Forestville Square project and Crinella subdivision impact similar habitat types as the project (i.e. ruderal vegetation and non-native grassland), as well as oak woodland. The staging area for the project would be located on a portion of the same parcel that would be developed for the Forestville Square project. The Canyon Rock Quarry Expansion is located in different habitat types than the project, including conifer forest, chaparral, and riparian habitat, and in general would have the potential to impact a different range of species than are present at the project site. Similarly, the Blue Rock Quarry Expansion is located in mixed evergreen forest habitat, which would also generally have a different assemblage of species present. The Mirabel Road Shoulder Widening Project would impact roadway frontage and is surrounded by residential development.

The biological impacts of the project include primarily temporary impacts to wildlife that would cease on project completion, along with loss of roadside trees. Individual resources for which the project could contribute to a cumulative impact are discussed below.

**Oak Woodland**

The Forestville Square project would require removing oak trees in what has been identified as a remnant oak woodland (WRA, 2003). The MND for the Forestville Square project requires replanting of trees per the Sonoma County Tree Protection Ordinance. The roundabout project staging area is located largely outside of this woodland, no trees would be removed from the oak woodland as part of the project, and trees would be fenced to protect them during construction. Building envelopes for the Crinella Subdivision have been sited to minimize tree removal, and any removal would also require replanting per the Tree Protection Ordinance. Given that the roundabout project has only temporary impacts to oak woodland, the project’s contribution to oak woodland impacts is not cumulatively considerable.
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

Roadside Trees

As described in Section 2.3.1, Natural Communities, the project would require the removal of 36 trees located along the road right-of-way and adjoining property frontages. These trees provided limited habitat value due to traffic related disturbance, and are not generally considered a sensitive natural community type. Forty-nine trees would be planted to replace those removed. The Crinella Subdivision project does not require removal of roadside trees. The Forestville Square project would not require removal of trees along the roadside, with the exception of a non-native eucalyptus tree, and includes planting of new trees along the roadway frontage. Based on a review of the existing right-of-way, substantial tree removal for the Mirabel Road Shoulder Widening project in the vicinity of the roundabout would not be required. In addition, opportunities may exist for replacement tree planting within the County owned right-of-way for any trees that may be removed. Tree removal associated with the quarry mining projects is related to specific habitat types not impacted by the project (conifer forest, mixed evergreen woodland) and is subject to the revegetation and reclamation standards of the Sonoma County Mining and Reclamation Ordinance (SMARO). The tree removal impacts of the project have been mitigated by the proposed replanting and the project would not result in a cumulative impact to roadside trees.

Wildlife Species

The project may result in impacts to western pond turtle, pallid bat, white-tailed kite and migratory birds.

The impacts to western pond turtle from the project would be temporary, construction-related impacts, and measures would be included in the project to avoid harming western pond turtle. Therefore, the project would not contribute to a cumulative impact to western pond turtle.

The Forestville Square project requires the removal of trees that could potentially be used by pallid bat. The Forestville Square project requires replacement of oak trees in accordance with the County’s Tree Protection Ordinance (applicable to private projects only), which require preservation on-site and/or replanting of trees. The Canyon Rock and Blue Rock EIRs identified disturbance of roosting or nesting pallid bats due to tree removal for mining activities as a potential impact, but included preconstruction surveys similar to those proposed by the project to prevent harming or killing bats during tree removal. Measures would be included in the project to avoid impacts to bats during construction. Trees removed by the project, though they do not currently provide bat habitat, would be replaced. Therefore, the project would not contribute to cumulative effects to pallid bats.

All of the projects considered in the cumulative analysis include removal of trees that may be used by migratory birds. The Crinella Subdivision and Forestville Square project would impact similar habitat as the project which could be used by white-tailed kite. The quarry expansion projects are not expected to impact white-tailed kite due to a lack of suitable habitat. The Forestville Square and Crinella Subdivision projects are required to comply with the County’s Tree Protection Ordinance which requires preservation on-site and/or replanting of trees. The quarry projects must comply with the reclamation and revegetation requirements in SMARO. The roundabout project would also include replanting of trees, and includes measures to prevent impacts to nesting or white-tailed kite or migratory birds during construction. The
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

The project would not result in a cumulative impact to white-tailed kite or migratory birds from loss of trees or construction-related disturbance.

Construction Impacts (Traffic, Air Quality, Noise)

Based on the uncertain future of the Forestville Square project, the current economic climate, and numerous conditions of approval that would have to be fulfilled prior to construction, it is assumed that the Forestville Square Project (or another development project on the same parcel) would not be under construction at the same time as the project. For similar reasons, it is also assumed that the Crinella subdivision project would not be under construction. Quarry operations are regulated under the County’s use permit as an ongoing operation, are separated by distance from the project, and are not considered in this discussion of construction impacts.

Based on the current programming and funding schedule, it is possible that construction of the project and the Mirabel Road Shoulder Widening project would overlap. The preliminary estimated duration for the Mirabel Road Shoulder Widening project is 60-80 days. This could result in temporary cumulative construction impacts to traffic, air quality, and noise.

Though the roundabout project is on the State Route and Caltrans is the Lead Agency, the County would manage the construction contracts for both projects. Therefore, it would be possible for the County to coordinate the projects in order to minimize traffic disruptions, and cumulative impacts of the projects would be less than significant.

Construction of the two projects simultaneously could result in short term emissions of fugitive dust and construction vehicle exhaust. The roundabout project includes multiple measures to minimize construction emissions. Local projects such as the Mirabel Road Shoulder Widening project are required to comply with NSCAPCD rules related to construction, including, but not limited to Rule 430 – Fugitive Dust Emissions. Cumulative impacts of the projects would be less than significant.

Construction activities could result in cumulative noise if construction activities at the southern end of the Mirabel Road Shoulder Widening project occur simultaneously with work on the Mirabel Road leg of the roundabout. However, the properties adjacent to where the two projects come together have commercial zoning, and are not considered sensitive receptors. The nearest sensitive receptor (a residence) is located approximately 230 feet to the north. Any cumulative noise would be of very short duration and would not result in a significant impact. Nevertheless, measures are included below to minimize the impact.

Avoidance, Minimization &/or Mitigation Measures

Caltrans and the County would coordinate construction activities for the project and the Mirabel Road Shoulder Widening project to minimize traffic disruption and cumulative construction noise to the maximum extent feasible.

Section 14-8.02, Noise Control, of the Caltrans Standard Specifications would be applied to the project and the Mirabel Road Shoulder Widening Project.
2.5 Climate Change (CEQA)

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988, has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light duty trucks, other trucks, buses, and motorcycles make up the largest source (second to electricity generation) of GHG emitting sources. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas Mitigation" is a term for reducing GHG emissions in order to reduce or "mitigate" the impacts of climate change. "Adaptation," refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)².

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing growth of vehicle miles traveled (VMT), 3) transitioning to lower GHG emitting fuels, and 4) improving vehicle technologies. To be most effective all four strategies should be pursued collectively. The following Regulatory Setting section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

Regulatory Setting

State

With the passage of several pieces of legislation including State Senate and Assembly bills and Executive Orders, California launched an innovative and pro-active approach to dealing with GHG emissions and climate change.

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases, 2002: requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June

² [http://climatechange.transportation.org/ghg_mitigation/](http://climatechange.transportation.org/ghg_mitigation/)
2009, the U.S. Environmental Protection Agency (U.S. EPA) Administrator granted a Clean Air Act waiver of preemption to California. This waiver allowed California to implement its own GHG emission standards for motor vehicles beginning with model year 2009. California agencies will be working with federal agencies to conduct joint rulemaking to reduce GHG emissions for passenger cars model years 2017-2025.

Executive Order (EO) S-3-05: (signed on June 1, 2005, by former Governor Arnold Schwarzenegger) the goal of this EO is to reduce California's GHG emissions to: 1) year 2000 levels by 2010, 2) year 1990 levels by the 2020, and 3) 80 percent below the year 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

AB 32, the Global Warming Solutions Act of 2006, Núñez and Pavley: AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan, (which includes market mechanisms) and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.”

Executive Order S-20-06: (signed on October 18, 2006 by former Governor Arnold Schwarzenegger) further directs state agencies to begin implementing AB 32, including the recommendations made by the California’s Climate Action Team.

Executive Order S-01-07: (signed on January 18, 2007 by former Governor Arnold Schwarzenegger) set forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California’s transportation fuels is to be reduced by at least ten percent by the year 2020.

Senate Bill 97 (SB 97) Chapter 185, 2007: required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Caltrans Director’s Policy 30 (DP-30) Climate Change (approved June 22, 2012): is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. This policy contributes to the Department’s stewardship goal to preserve and enhance California’s resources and assets.

Federal

Although climate change and GHG reduction is a concern at the federal level; currently there are no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has promulgated explicit guidance or methodology to conduct project-level GHG analysis. As stated on FHWA’s climate change website (http://www.fhwa.dot.gov/hep/climate/index.htm), climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.
The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the state has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in the growth of vehicle hours travelled.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the “National Clean Car Program” and EO 13514 - Federal Leadership in Environmental, Energy and Economic Performance.

Executive Order 13514 is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also direct federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

On April 2, 2007, in Massachusetts v. EPA, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act and that the U.S. EPA has the authority to regulate GHG. The Court held that the U.S. EPA Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding**: The Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)—in the atmosphere threaten the public health and welfare of current and future generations.

- **Cause or Contribute Finding**: The Administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. EPA’s Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles, which was published on September 15, 2009³. On May 7, 2010 the final Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards was published in the Federal Register.

U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations. These steps were outlined by President Obama in a Presidential Memorandum on May 21, 2010⁴.

³ [http://www.epa.gov/oms/climate/regulations.htm#1-1](http://www.epa.gov/oms/climate/regulations.htm#1-1)
⁴ [http://epa.gov/otaq/climate/regulations.htm](http://epa.gov/otaq/climate/regulations.htm)
The final combined U.S. EPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide (CO₂) per mile, (the equivalent to 35.5 miles per gallon [MPG] if the automobile industry were to meet this CO₂ level solely through fuel economy improvements. Together, these standards will cut GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On November 16, 2011, U.S. EPA and NHTSA issued their joint proposal to extend this national program of coordinated greenhouse gas and fuel economy standards to model years 2017 through 2025 passenger vehicles.

Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project's incremental effect is “cumulatively considerable.” See CEQA Guidelines sections 15064(h)(1) and 15130. To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

The AB 32 Scoping Plan contains the main strategies California will use to reduce GHG. As part of its supporting documentation for the Draft Scoping Plan, ARB released the GHG inventory for California (Forecast last updated: 28 October 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

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5 This approach is supported by the AEP: Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents (March 5, 2007), as well as the SCAQMD (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).
Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

State Route 116 at Mirabel Road Intersection Improvement Project

Source: [http://www.arb.ca.gov/cc/inventory/data/forecast.htm](http://www.arb.ca.gov/cc/inventory/data/forecast.htm)

**Figure 13. California Greenhouse Gas Forecast**

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California’s GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.⁶

**Operational Emissions**

The project involves replacement of an existing stop-controlled intersection with a single-lane roundabout. The purpose of the project is to improve traffic flow at the Mirabel Rd/ SR 116 intersection as well as accommodate traffic from planned future growth.

One of the main strategies in Caltrans’ Climate Action Program to reduce GHG emissions is to make California’s transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds. At the existing intersection, traffic is subject to peak hour congestion. The project intends to relieve traffic congestion. The roundabout would reduce congestion by allowing continuous traffic flow through the intersection, reducing stop-and-go movements and the resulting vehicle back-ups along Mirabel Road. To the extent that the roundabout leads to decreased intersection delays and decreased vehicle idling, vehicle emissions of greenhouse gases are expected to decrease.

Under the No Build Alternative, traffic operations would worsen due to increased traffic volumes over the coming years, resulting in increased delays. In year 2035, the stop-controlled movement from Mirabel Road onto SR 116 is projected to experience more than 10 minutes of delay per vehicle in the a.m. and p.m. peak hours, resulting in substantial back-ups and vehicle idling, leading to increased greenhouse gas emissions. In comparison, for year 2035, the

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⁶ Caltrans Climate Action Program is located at the following web address: [http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf](http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf)
roundabout is projected to have a maximum delay of 15 seconds. (See Table 7 in Section 2.1.7.1, Motor Vehicle Traffic.)

Construction Emissions

Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, trucks hauling construction materials, and emissions arising from traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase of the project; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

As described in Section 1.4.1, Build Alternative, the construction has been sequenced in order to maintain two-way traffic on SR 116 and Mirabel Road with only brief and limited exception, which would reduce traffic delays and associated vehicle emissions during construction. Additional measures that would be included in the project to address construction emissions are listed below under “Greenhouse Gas Reduction Strategies.”

The No Build Alternative would not result in construction-related GHG emissions.

CEQA Conclusion

It is Caltrans’ determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding the project’s direct impact and its contribution on the cumulative scale to climate change. Caltrans is taking further measures to help reduce energy consumption and greenhouse gas emissions. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

AB 32 Compliance

Caltrans continues to be actively involved on the Governor’s Climate Action Team as ARB works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies the Department is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $222 billion infrastructure improvement program to fortify the state’s transportation system, education, housing, and waterways, including $100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today’s level and a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO₂ reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as depicted in Figure 14: The Mobility Pyramid.
Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. Caltrans works closely with local jurisdictions on planning activities but does not have local land use planning authority. Caltrans assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by U.S. EPA and ARB.

Table 13 summarizes Caltrans’ and statewide efforts that Caltrans is implementing in order to reduce GHG emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).
### Table 13. Climate Change/CO2 Reduction Strategies

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Program</th>
<th>Partnership</th>
<th>Method/Process</th>
<th>Estimated CO₂ Savings (MMT)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Smart Land Use</strong></td>
<td>Intergovernmental Review (IGR)</td>
<td>Caltrans Local governments</td>
<td>Review and seek to mitigate development proposals</td>
<td>Not Estimated  Not Estimated</td>
</tr>
<tr>
<td></td>
<td>Planning Grants</td>
<td>Caltrans Local and regional agencies &amp; other stakeholders</td>
<td>Competitive selection process</td>
<td>Not Estimated  Not Estimated</td>
</tr>
<tr>
<td></td>
<td>Regional Plans and Blueprint Planning</td>
<td>Regional Agencies Caltrans</td>
<td>Regional plans and application process</td>
<td>.975 7.8</td>
</tr>
<tr>
<td><strong>Operational Improvements &amp; Intelligent Transportation System (ITS) Deployment</strong></td>
<td>Strategic Growth Plan</td>
<td>Caltrans Regions</td>
<td>State ITS; Congestion Management Plan</td>
<td>.07 2.17</td>
</tr>
<tr>
<td><strong>Mainstream Energy &amp; GHG into Plans and Projects</strong></td>
<td>Office of Policy Analysis &amp; Research, Division of Environmental Analysis</td>
<td>Interdepartmental effort</td>
<td>Policy establishment, guidelines, technical assistance</td>
<td>Not Estimated  Not Estimated</td>
</tr>
<tr>
<td><strong>Educational &amp; Information Program</strong></td>
<td>Office of Policy Analysis &amp; Research</td>
<td>Interdepartmental, CalEPA, ARB, CEC</td>
<td>Analytical report, data collection, publication, workshops, outreach</td>
<td>Not Estimated  Not Estimated</td>
</tr>
<tr>
<td><strong>Fleet Greening &amp; Fuel Diversification</strong></td>
<td>Division of Equipment</td>
<td>Department of General Services</td>
<td>Fleet Replacement B20 B100</td>
<td>.0045 .0065 .045 .0225</td>
</tr>
<tr>
<td><strong>Non-vehicular Conservation Measures</strong></td>
<td>Energy Conservation Program</td>
<td>Green Action Team</td>
<td>Energy Conservation Opportunities</td>
<td>.117 .34</td>
</tr>
<tr>
<td></td>
<td>Office of Rigid Pavement</td>
<td>Cement and Construction Industries</td>
<td>2.5 % limestone cement mix 25% fly ash cement mix &gt; 50% fly ash/slag mix</td>
<td>1.2 4.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>2.72 18.18</td>
</tr>
</tbody>
</table>
To the extent that it is applicable or feasible for the project and through coordination with the project development team, the following measures would also be included in the project to reduce the GHG emissions and potential climate change impacts from the project:

- According to the Caltrans Standard Specifications, the contractor must comply with all local Air Pollution Control District's rules, ordinances, and regulations in regards to air quality restrictions.

- Idling times would be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

- All construction equipment would be maintained and properly tuned in accordance with manufacturer’s specifications. Use low-sulfur fuel in all construction equipment as provided in California Code of Regulations Title 17, Section 93114.

- The project would incorporate the use of energy efficient lighting, such as LED lights to the extent feasible. LED bulbs cost $60 to $70 apiece but last five to six years, compared to the one-year average lifespan of the incandescent bulbs previously used. The LED bulbs themselves consume 10 percent of the electricity of traditional lights, which would also help reduce the project’s CO₂ emissions.\(^7\)

- Construction traffic would be routed and scheduled to avoid peak travel times as much as possible, to reduce congestion and related air quality impacts caused by idling vehicles along local roads

- Landscaping reduces surface warming, and through photosynthesis, decreases CO₂. The project proposes planting in the roundabout, road slopes, retaining wall bench, and bioswales. The County would plant a minimum of 49 trees in the project area or off-site to replace native trees removed during construction.

**Adaptation Strategies**

“Adaptation strategies” refer to how Caltrans and others can plan for the effects of climate change on the state’s transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency report on October 14, 2010 outlining recommendations to President Obama for how Federal Agency policies and programs can better prepare the U.S. to respond to the impacts of climate change. The Progress Report of the Interagency Climate Change Adaptation Task Force recommends that the federal government implement actions to expand and strengthen the nation’s capacity to better understand, prepare for, and respond to climate change.

Climate change adaption must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, former Governor Arnold Schwarzenegger signed EO S-13-08 which directed a number of state agencies to address California’s vulnerability to sea level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea level rise.

The California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop. The California Climate Adaptation Strategy (Dec 2009), which summarizes the best known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to EO S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including the California Environmental Protection Agency; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

The Resources Agency was also directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010 to advise how California should plan for future sea level rise. The report is to include:

- Relative sea level rise projections for California, Oregon and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates.
- The range of uncertainty in selected sea level rise projections.

Chapter 2. Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures

- A synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems.
- A discussion of future research needs regarding sea level rise.

Prior to the release of the final Sea Level Rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data.

Interim guidance has been released by The Coastal Ocean Climate Action Team (CO-CAT) as well as the Department as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise.

All projects that have filed a Notice of Preparation as of the date of EO S-13-08, and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines. The project is programmed for construction in 2013.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, Caltrans will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted in response to EO S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea Level Rise Assessment Report.
Chapter 3 - COMMENTS AND COORDINATION

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the necessary scope of environmental documentation, the level of analysis required, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of methods, including: project development team meetings, interagency coordination meetings, and a public meeting. This chapter summarizes the results of Caltrans’ efforts to fully identify, address and resolve project-related issues through early and continuing coordination.

Project Development Team (PDT)

The Project Development Team is comprised of the Project Manager and representatives from the various functional units within Caltrans involved in the project development process. This includes, but is not limited to, representatives from the project design group, environmental, traffic, construction, surveys, and right-of-way. It also includes representatives of Sonoma County DTPW, Sonoma County PRMD, and SCTA.

The PDT advises and assists the Project Manager in directing the course of studies, makes recommendations to the Project Manager and district management, and works to carry out the project work plan. Members of the PDT participate in major meetings, public hearings and community involvement. The PDT is responsible for conducting studies and accumulating data throughout the project development and then implementing this data and information into Plans, Specifications and Estimates (PS&E) phase.

Agency Coordination

A “Notice of Project to Receive Environmental Review” was mailed to public agencies that may have an interest in the project on September 21, 2010. The letter requested input on environmental issues that should be considered in this environmental document. Agency correspondence is included in Appendix I.

Staff from Sonoma County PRMD met on-site with staff from the U.S. Army Corps of Engineers (USACE) on February 11, 2010. The USACE verified the extent of their jurisdiction in a jurisdictional determination dated November 3, 2010.

Staff from Sonoma County DTPW met with the current chief of the Forestville Fire Protection District on June 12, 2013 to discuss roundabout operations and emergency response times.

Public Participation

A public information meeting was held on February 26, 2009 at the Forestville Elementary School. Meeting notices were mailed to adjacent property owners, selected state and local agencies, local citizen groups, local papers, and environmental organizations. During the meeting, conceptual alternatives (a roundabout and signal) were presented to the public, along with information regarding the project goals, funding, and schedule. Sonoma County Supervisor Efren Carrillo welcomed people to the meeting. The meeting functioned as a “town hall,” in which staff from the Sonoma County DTPW responded to questions from community members. An “open house” format followed the question and answer session, during which community
Chapter 3. Comments and Coordination

members were able ask one-on-one questions of County, Caltrans, and SCTA staff, and to view exhibits showing the project alternatives. Community members were also encouraged to submit written comments on comment cards provided at the meeting. Approximately 60 community members and public agency representatives attended the meeting. Twenty-three people submitted written comments. A majority of those in attendance expressed support for the roundabout alternative. Multiple issues were discussed, including roundabout and retaining wall aesthetics, pedestrian and bicyclist safety, truck movements, air quality benefits, and sight distance at Hidden Lake Road.

The County mailed a “Notice of Project to Receive Environmental Review” to residents within 0.5 miles of the project on September 21, 2010, as well as to other parties or organizations that may have an interest in the project. The letter requested input on environmental issues that should be considered in this environmental document. Six telephone comments and eight written comments were received.

The following is a general summary of questions/comments/concerns from the public meeting and mailed notice:

- Is the project needed?

- The project may be too costly. Does a traffic signal cost less? I prefer that money be spent on other improvement projects, such as the bypass.

- Roundabouts cause confusion for motorists.

- There were concerns about ability for oversize vehicles to navigate the roundabout.

- The mobility of fire trucks entering the roundabout from the north leg if a vehicle is disabled or pulled over to the right side is a concern. The splitter/median island will confine fire trucks and not allow them to pass.

- A traffic signal at the Covey Road/SR 116 intersection is more urgently needed than a roundabout at the Mirabel Road/SR 116 intersection.

- Will traffic on SR 116 (after project is built) be worse than the existing condition?

- Curb cuts should be flush with the pavement to make them bicycle friendly.

- Keep bicyclists in mind when designing signage.

- There is a need to coordinate the roundabout project with the planned trail projects in the area.

- Consider a “bypass lane” (provide a free right turn) for the eastbound SR 116 to the southbound Mirabel Rd (bypass) maneuver.

- The project should address adequate sight distance at Hidden Lake Road.

- There was preference for short (lower than five-foot) retaining walls.
• There was preference for a tiered retaining wall (versus a single/taller wall).

• There were concerns about changes to gas station access.

• There were concerns related to right-of-way acquisition.

### Circulation and Review of the Draft Environmental Document

The Draft Initial Study was distributed for public review and comment beginning on January 18 and ending on February 19, 2013. A printed or electronic copy of this Initial Study was distributed to agencies listed in Chapter 5 of this document. The availability of the Initial Study was advertised through direct mail to residences and business within one-quarter mile of the project, to other local agencies and organizations that may have interest in the project, and to those who have requested to be included on the project mailing list, as well as by an advertisement in the Press Democrat newspaper on January 18, 2013.

A public meeting was held for the project on February 6, 2013 between 6:00 and 8:00 p.m. at the Forestville Elementary School. The meeting was an open house format, with displays available for review and Caltrans and County staff in attendance to answer questions. A court reporter took one-on-one verbal comments from members of the public. Comment forms were available for those who wanted to submit written comments. Thirty five people signed in to the meeting. Sixteen people made comments to the court reporter.

During the public review period, 20 written comments were submitted in the form of letters, e-mails, and comment cards that were distributed at the public meeting. Common issues raised in the comment period and at the public meeting related to the effect on emergency response times, roundabout size to accommodate trucks and oversized loads, traffic operation of the roundabout and effect on air quality, aesthetics of the project, pedestrian safety, construction impacts, accident data and whether there is need for the project. Comments included statements in opposition to the project and statements in support of the project.

The comments received during the comment period, (including written comments and comments made to the court reporter) and responses to the comments are included in Appendix K.
Chapter 4 - LIST OF PREPARERS

This document and its related technical studies were prepared under the supervision of Caltrans, District 4. The Project Development Team (PDT) was responsible for oversight of the project and consists of representatives from Caltrans, the Sonoma County Transportation Authority and the County of Sonoma.

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Seana Gause, Program/Project Analyst, Sonoma County Transportation Authority
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Chris Sewell. WRECO. Contribution: Preparation of the Storm Water Data Report.


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Chapter 6 - REFERENCES

Allen, James. 2012. Paleontological Evaluation Report and Mitigation Plan State Route (SR) 116 and Mirabel Road in Forestville, Sonoma County, California


CDFG. 2011. Natural Diversity Data Base, Wildlife and Habitat Data Analysis Branch, Sacramento.


California Department of Mines and Geology. 1980. Geology for Planning in Sonoma County: Special Report 120.


McCormick, Bill. June 24, 2010. Email to Laura Peltz, Sonoma County PRMD, regarding lack of fossils in geotechnical borings performed for the SR 116 at Mirabel Road Intersection Improvement Project. Kleinfelder, Inc. BMcCormick@kleinfelder.com.


North Coast Regional Water Quality Control Board. 2007. Water Quality Control Plan for the North Coast Region, as amended.


Sonoma County. 1989, as amended. Sonoma County General Plan.


Sonoma County. 2010. 2010 Sonoma County Bicycle and Pedestrian Plan. Adopted by Resolution No. 10-0636 of the Sonoma County Board of Supervisors; August 24, 2010.


Sonoma County Permit and Resource Management Department (PRMD), 2012. PRMD Geographic Information System. Farmlands.


Sonoma County PRMD. 2012. Farmlands Conversion Assessment, State Route 116 at Mirabel Road Intersection Improvement Project.
Sonoma County PRMD. 2012b. Biological Evaluation, State Route 116 at Mirabel Road Intersection Improvement Project.

Sonoma County PRMD. 2012c. Natural Environment Study, State Route 116 at Mirabel Road Intersection Improvement Project.


Appendix A: CEQA Checklist

CEQA Environmental Checklist
04-SON-116  19.2/19.5  1A2410
Dist.-Co.-Rte.  P.M/P.M.  E.A.

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

<table>
<thead>
<tr>
<th>I. AESTHETICS: Would the project:</th>
<th>Potentially Significant Impact</th>
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<tr>
<td>a) Have a substantial adverse effect on a scenic vista</td>
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<td>b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway</td>
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<td>c) Substantially degrade the existing visual character or quality of the site and its surroundings?</td>
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<td>d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</td>
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II. AGRICULTURE AND FOREST RESOURCES: 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. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) 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? | ☐ | ☐ | ☒ | ☐ |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | Potentially Significant Impact | Less Than Significant Impact | Less Than Significant Impact with Mitigation | No Impact |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | | | | |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | | | | |

**III. AIR QUALITY**: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

| a) Conflict with or obstruct implementation of the applicable air quality plan? | Potentially Significant Impact | Less Than Significant Impact | Less Than Significant Impact with Mitigation | No Impact |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | | | | |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | | | | |
| d) Expose sensitive receptors to substantial pollutant concentrations? | | | | |
| e) Create objectionable odors affecting a substantial number of people? | | | | |

**IV. BIOLOGICAL RESOURCES**: Would the project:

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

ϕ  ϕ  ☒  ϕ

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?

ϕ  ϕ  ☒  ϕ

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

ϕ  ϕ  ✗  ☒

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?

ϕ  ϕ  ✗  ☒

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

ϕ  ϕ  ☒  ✗

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

ϕ  ϕ  ☒  ✗

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

ϕ  ✗  ☒  ϕ

d) Disturb any human remains, including those interred outside of formal cemeteries?

ϕ  ϕ  ☒  ✗

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

ϕ  ϕ  ☒  ✗

ii) Strong seismic ground shaking?

ϕ  ϕ  ☒  ✗

iii) Seismic-related ground failure, including liquefaction?

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iv) Landslides?  
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b) Result in substantial soil erosion or the loss of topsoil?  
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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?  
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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?  
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e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?  
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VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?  
An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project’s direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?  

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?  

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c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?  
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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?

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e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

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f) 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?

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g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

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h) 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?

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IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?

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<th>Potentially Significant Impact</th>
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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)?

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<th>Potentially Significant Impact</th>
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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?

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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?

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
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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?

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<th>Potentially Significant Impact</th>
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f) Otherwise substantially degrade water quality?

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<th>Potentially Significant Impact</th>
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</tbody>
</table>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

j) Inundation by seiche, tsunami, or mudflow

X. LAND USE AND PLANNING: Would the project:

a) Physically divide an established community?

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

XI. MINERAL RESOURCES: Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

XII. NOISE: Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

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<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
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e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

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<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
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</table>

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

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<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
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XIII. POPULATION AND HOUSING: Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
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b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

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<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

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<th>Less Than Significant Impact</th>
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</table>

XIV. PUBLIC SERVICES:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- Fire protection?

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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</table>

- Police protection?

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<thead>
<tr>
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<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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- Schools?

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<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tr>
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</table>

- Parks?

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tr>
<td>☐</td>
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</table>

- Other public facilities?

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>XV. RECREATION:</td>
<td>Potentially Significant Impact</td>
<td>Less Than Significant with Mitigation</td>
<td>Less Than Significant Impact</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------</td>
<td>--------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>XVI. TRANSPORTATION/TRAFFIC: Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
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</tr>
<tr>
<td>e) Result in inadequate emergency access?</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?</td>
<td>☐</td>
<td>☐</td>
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</table>

<table>
<thead>
<tr>
<th>XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>Potentially Significant Impact</td>
<td>Less Than Significant with Mitigation</td>
<td>Less Than Significant Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td>d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</td>
<td>Potentially Significant Impact</td>
<td>Less Than Significant with Mitigation</td>
<td>Less Than Significant Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td>e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?</td>
<td>Potentially Significant Impact</td>
<td>Less Than Significant with Mitigation</td>
<td>Less Than Significant Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td>f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?</td>
<td>Potentially Significant Impact</td>
<td>Less Than Significant with Mitigation</td>
<td>Less Than Significant Impact</td>
<td>No Impact</td>
</tr>
<tr>
<td>g) Comply with federal, state, and local statutes and regulations related to solid waste?</td>
<td>Potentially Significant Impact</td>
<td>Less Than Significant with Mitigation</td>
<td>Less Than Significant Impact</td>
<td>No Impact</td>
</tr>
</tbody>
</table>

**XVIII. MANDATORY FINDINGS OF SIGNIFICANCE**

| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
| 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)? | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
Appendix B: Project Plans, Cross Sections, and Profiles
Appendix C: Construction Sequencing Plans
STAGE 1 CONSTRUCTION ITEMS:

1. Construct South Portion of Route 116 and South Leg of Mirabel Road.
5. Construct Drainage System No. 3.
6. Construct Drainage System No. 9 (Biofiltration Swale).

NOTE: All utility relocation work to be completed during Stage 1.

STAGE 1 TRAFFIC NOTES:

- Maintain traffic on existing Route 116 and existing Mirabel Road.
- Maintain access to/from Hidden Lake Road (see TH Sheets).
- All utility relocation work to be completed during Stage 1.
STAGE 2 CONSTRUCTION ITEMS:
1. Construct part of Hidden Lake Road.
2. Construct drainage system No. 2.

STAGE 2 TRAFFIC NOTES:
- Maintain traffic on existing Route 116 and existing Mirabel Road.
- Hidden Lake Traffic to use temporary detour, maintain 1 lane of traffic with flagger traffic control (see in sheets).
STAGE 3 CONSTRUCTION ITEMS:

1. First order of work, construct AC conform of Hidden Lake Road.
2. Construct temporary pavement for temporary intersection at Mirabel Road. See detour layout sheet SC-3.

STAGE 3 TRAFFIC NOTES:

- Maintain traffic on existing Route 116 and existing Mirabel Road.
- Hidden Lake traffic to use temporary detour. Maintain 1 lane of traffic with flagger traffic control.
- Work on Route 116 to be completed within one continuous weekend. Maintain 1 lane reversing control with flagger from Saturday 4 PM to Monday 7 AM on Route 116 at Mirabel Road.

STAGE CONSTRUCTION (STAGE 3)

SCALE: 1" = 50'

APPROVED FOR STAGE CONSTRUCTION WORK ONLY

DRAFT
STAGE 4A CONSTRUCTION ITEMS:
1. First order of work construct west tie-in of temporary detour.
2. Construct remaining portion of Hidden Lake Road.
3. Remove temporary pavement.
4. Construct temporary pavement, see detour layout sheet SC-4.
5. Construct drainage system No. 2 (Biofiltration swale).
6. Construct drainage system No. 2.

STAGE 4A TRAFFIC NOTES:
- Hidden Lake traffic on temporary detour.
- Route 116/Hidden Lake Road intersection relocated southwest onto temporary pavement constructed in stage 1.
- Stage 4A and 4B work on Route 116 to be completed within one continuous weekend. Maintain 1 lane reversing control with flaggers from Saturday 4 PM to Monday 7 AM. Maintain access to private driveways.

STAGE CONSTRUCTION
(STAGE 4A)
SC-4
SCALE: 1" = 50'

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET SC-1

APPROVED FOR STAGE CONSTRUCTION WORK ONLY
STAGE 4B CONSTRUCTION ITEMS:

1. Construct Northwest Tie In of Route 116.

STAGE 4B TRAFFIC NOTES:

- Traffic on temporary detour.
- Stage 4A and 4B work on Route 116 to be completed within one continuous weekend. Maintain 1 lane reversing control with flagger from Saturday 4 PM to Monday 7 AM. Maintain access to private driveways.

PRIVATE DRIVEWAYS.

ROUTE 116

HIDDEN

LAKE Rd

DETOUR

ROUTE 116

LAKE Rd

HIDDEN

SECTION A-A

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET SC-1

APPROVED FOR STAGE CONSTRUCTION WORK ONLY

COUNTY OF SONOMA DTPW

1100 COUNTY CENTER DRIVE

SANTA ROSA, CA 95403

HDR ENGINEERING, INC

2121 N CALIFORNIA BLVD

SUITE 475

SANTA ROSA, CA 95403

ADRIAN A. GUNDERSON

V. FUNG

X

X

X

X

X

COUNTY

ROUTE

POST MILES

TOTAL PROJECT SHEET NO.

TOTAL SHEETS

LAST REVISION

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

PREPARED

PROJECT NUMBER & PHASE

04000004871

PLANS APPROVAL DATE

REGISTERED CIVIL ENGINEER

TIME PLOTTED =>

DATE PLOTTED =>

12:24:53 PM

8/8/2013

CHECKED BY

DESIGNATED BY

CALCULATED - REVISED BY

DATE REVISED

CONSULTANT FUNCTIONAL SUPERVISOR

COPIES OF THIS PLAN SHEET.

THE ACCURACY OR COMPLETENESS OF SCANNED OR AGENTS SHALL NOT BE RESPONSIBLE FOR

STATE OF CALIFORNIA OR ITS OFFICERS

DGN FILE =>

0400000000md005.dgn

UNIT 00277

PROJECT NUMBER & PHASE 04000004871

SC-5

DRAFT
STAGE 5 CONSTRUCTION ITEMS:
1. Construct private driveways.
2. Construct drainage system No. 1.

STAGE 5 TRAFFIC NOTES:
- Route 116 traffic on temporary detour.
- Maintain access to private driveways during stage construction.
STAGE 6 CONSTRUCTION ITEMS:
2. Remove existing DJ and culvert.
3. Construct drainage system No. 7.
4. Construct drainage system No. 4 (Tree Well Filter).
5. Construct drainage system No. 5 (Tree Well Filter).
6. Construct drainage system No. 6.

STAGE 6 TRAFFIC NOTES:
- Route 116 traffic on temporary detour.

ROUTE 116
STAGE 6 CONSTRUCTION
SC-7
SCALE: 1" = 50'

APPROVED FOR STAGE CONSTRUCTION WORK ONLY
STAGE 7 CONSTRUCTION ITEMS:
1. Construct shopping center driveway.
2. Construct east tie-in of Route 116 and gas station driveway.
3. Construct drainage system No. 7.
4. Construct drainage system No. 10.

STAGE 7 TRAFFIC NOTES:
- Route 116 & Mirabel road traffic on temporary detour.
- Work on Mirabel road to be completed within one continuous weekend. Maintain one lane reversing control with flagger from Friday 6pm to Monday 7am on Mirabel road at Westside center driveway.

CONTRIBUTED BY
ADRIAN A. GUNDESON
V. FUNG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
STAGE OF CONSTRUCTION: COORD. OF ALL SURVEY, G.G.
REGISTERED CIVIL ENGINEER
CONFIDENTIAL

PLANS APPROVED DATE
REGISTERED CIVIL ENGINEER DATE
STATE OF CALIFORNIA OR ITS OFFICERS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED OR AGENTS.
ARCHITECT, ENGINEER, OR SURVEYOR.

STAGE CONSTRUCTION
(SCHEMATIC)
SCALE: 1' = 50'
STAGE 8 CONSTRUCTION ITEMS:
1. Construct gas station driveway.

STAGE 8 TRAFFIC NOTES:
- Temporary intersection relocated west.
- Route 116 & Mirabel Road traffic on temporary detour.
- Traffic to access gas station from driveway on Route 116.
STAGE 9 CONSTRUCTION ITEMS:

1. Construct northeast quadrant of Roundabout, including sidewalk and curb & gutter.
2. Construct northeast 1/2 in of Mirabel Road, including sidewalk and curb & gutter.
3. Remove temporary pavement, construct final portion of Roundabout / Route 116.
5. Remove existing DJ and culvert.

STAGE 9 TRAFFIC NOTES:

- Route 116 & Mirabel Road traffic on temporary detour.
STAGE 10 CONSTRUCTION ITEMS:

1. Construct Splitter Truck Apron.

STAGE 10 TRAFFIC NOTES:

- Shift Traffic Around Temporary Configuration to Construct Truck Apron.
STAGE 11A CONSTRUCTION ITEMS:
1. Construct sidewalks, curb & gutter and necessary grading.
2. Construct splitter islands on south leg of Mirabel Road.
3. Remove temporary pavement.

STAGE 11A TRAFFIC NOTES:
- Shift traffic around temporary configuration at Route 116 and Mirabel Road intersection.
**STAGE 11B CONSTRUCTION ITEMS:**

1. Remove HMA and construct splitter islands.

**STAGE 11B TRAFFIC NOTES:**

- Shift traffic around final configuration to construct splitter islands.
- North and west splitter island construction to be coordinated with quarry truck schedule.
- Construct one splitter island at a time.
March 16, 2012

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Mario Solis, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353, TTY 711, fax (916) 324-1869, or via email: mario_solis@dot.ca.gov.

MALCOLM DOUGHERTY
Acting Director

“Caltrans improves mobility across California”
**Appendix E: United States Department of Agriculture Form AD 1006**

### U.S. Department of Agriculture

**FARMLAND CONVERSION IMPACT RATING**

**PART I** (To be completed by Federal Agency)

Name Of Project: SR 116 at Mirabel Road Intersection Improvement  
Federal Agency Involved: Federal Highway Administration/Caltrans  
Proposed Land Use: Roadway  
County And State: Sonoma County, CA  

**PART II** (To be completed by NRCS)

Date Of Land Evaluation Request: 8/2/12  
Date Request Received By NRCS: 8/2/12  
Does the site contain prime, unique, statewide or local important farmland? Yes ☑ No ☐  
Acres Irrigated: 78,265  
Average Farm Size: 155  
Major Crop(s): Wine, grape, milk, livestock, poultry  
Fertile Land In Govt. Jurisdiction: 11,973 Acres  
%: 4  
Amount Of Farmland As Defined In FPPA: 160,339 Acres  
%: 16  

**PART III** (To be completed by Federal Agency)

Alternative Site Rating

<table>
<thead>
<tr>
<th>Site</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site A</td>
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<td></td>
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<tr>
<td>Site B</td>
<td></td>
<td>0.3</td>
<td></td>
<td></td>
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<tr>
<td>Site C</td>
<td></td>
<td></td>
<td>0.0</td>
<td></td>
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<tr>
<td>Site D</td>
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</table>

**PART IV** (To be completed by NRCS) Land Evaluation Information

<table>
<thead>
<tr>
<th>Item</th>
<th>Acres Prime And Unique Farmland</th>
<th>Acres Statewide And Local Important Farmland</th>
<th>Percentage Of Farmland In County Or Local Gov’t Unit To Be Converted</th>
<th>Percentage Of Farmland In Gov’t Jurisdiction With Same Or Higher Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1.4</td>
<td>0.7</td>
<td>0.0</td>
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**PART V** (To be completed by NRCS) Land Evaluation Criterion

Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)

<table>
<thead>
<tr>
<th>Relative Value of Farmland</th>
<th>63</th>
</tr>
</thead>
</table>

**PART VI** (To be completed by Federal Agency) Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Maximum Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Area In Nonurban Use</td>
<td>15 13</td>
</tr>
<tr>
<td>2. Perimeter In Nonurban Use</td>
<td>10 7</td>
</tr>
<tr>
<td>3. Percent Of Site Being Farmed</td>
<td>20 13</td>
</tr>
<tr>
<td>4. Protection Provided By State And Local Government</td>
<td>20 0</td>
</tr>
<tr>
<td>5. Distance From Urban Bulwark Area</td>
<td>0 0</td>
</tr>
<tr>
<td>6. Distance To Urban Support Services</td>
<td>0 0</td>
</tr>
<tr>
<td>7. Size Of Present Farm Unit Compared To Average</td>
<td>10 0</td>
</tr>
<tr>
<td>8. Creation Of Nonfarmable Farmland</td>
<td>25 15</td>
</tr>
<tr>
<td>9. Availability Of Farm Support Services</td>
<td>5 5</td>
</tr>
<tr>
<td>10. On-Farm Investments</td>
<td>20 13</td>
</tr>
<tr>
<td>11. Effects Of Conversion On Farm Support Services</td>
<td>25 0</td>
</tr>
<tr>
<td>12. Compatibility With Existing Agricultural Use</td>
<td>10 0</td>
</tr>
<tr>
<td>TOTAL SITE ASSESSMENT POINTS</td>
<td>160 66</td>
</tr>
</tbody>
</table>

**PART VII** (To be completed by Federal Agency)

Relative Value Of Farmland (From Part V) | 100 63 |

Total Site Assessment (From Part VI above or a local site assessment) | 160 66 |

TOTAL POINTS (Total of above 2 lines) | 260 129 |

Site Selected: A  
Date Of Selection:  
Was A Local Site Assessment Used? Yes ☐ No ☑  
Reason For Selection: No alternative sites are possible since the project involves improving an existing intersection and improving sight distance of an existing roadway. Because Site A alternative has a less than significant impact to farmland (total score of 129), the project need not be halted to protect farmland resources.

(See Instructions on reverse side)  
Form AD-1006 (10-83)

This form was electronically produced by National Production Services Staff

State Route 116 at Mirabel Road Intersection Improvement Project
NOTE: Preliminary landscape concepts are provided for information only and have not been approved by Caltrans. Final landscape concepts would be required to comply with Department Standards and Policies.
Landscape Concepts with accompanying text submitted by Ken Smith of the Forestville Roundabout Committee, 1-21-13 and 1-31-13, and displayed at 2-6-13 Public Meeting

This photoshop rendering was created by the Forestville Roundabout Committee, their preferred design for the new roundabout. The committee members feel that to drive down Main Street with the view of three magnificent valley oak trees in the heart of their downtown will be quite satisfying. They feel that by planting the oak trees in a rock garden will allow for a beautiful roundabout as the oak trees mature. The valley oak trees will look about this large in the year of 2025.

This photoshop rendering, also created by the Forestville Roundabout Committee, shows what the roundabout might look like shortly after construction is completed. The rock garden will create beauty at the heart of downtown Forestville while the valley oak trees are young. When the valley oak trees are fully mature shade-loving ground cover will replace the flowers.
Landscape Concept prepared by HDR Inc, based on the Roundabout Committee Concept and displayed at 2-6-13 Public Meeting
Previous concepts developed by the Forestville Roundabout Committee
State Route 116 at Mirabel Road Intersection Improvement Project
## Appendix H: Species Potentially Present in the Project Region

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
<th>General Habitat Description</th>
<th>Habitat Present/Absent</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLANTS</strong></td>
<td></td>
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</tr>
<tr>
<td>Baker’s larkspur</td>
<td><em>Delphinium bakeri</em></td>
<td>FE SE</td>
<td>Coastal scrub, grasslands. Historically known from grassy areas along fencelines. Sonoma Co occurrence extirpated. Only known extant site occurs in Marin Co on NW facing slope along Salmon Cr, on decomposed shale. 90-305 m. Blooms Mar-May.</td>
<td>A</td>
<td>Requires strong coastaly influenced habitat that is absent from the BSA.</td>
</tr>
<tr>
<td>Baker’s manzanita</td>
<td><em>Arctostaphylos bakeri ssp. bakeri</em></td>
<td>SR CNPS 1B.1</td>
<td>Broadleafed upland forest, chaparral. Often on serpentine. 75-300 m. Blooms Feb-Apr.</td>
<td>A</td>
<td>No broadleafed upland forest or chaparral present. No serpentine soils present.</td>
</tr>
<tr>
<td>Baker’s navarretia</td>
<td><em>Navaretia leucocephala ssp. bakeri</em></td>
<td>CNPS 1B.1</td>
<td>Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Vernal pools and swales; adobe or alkaline soils. 5-950M. Blooms Apr-Jul.</td>
<td>A</td>
<td>No wetlands present. Not seen during surveys.</td>
</tr>
<tr>
<td>brownish beaked-rush</td>
<td><em>Rhynchospora capitellata</em></td>
<td>CNPS 2.2</td>
<td>Lower montane coniferous forest, meadows &amp; seeps, marshes &amp; swamps, upper montane coniferous forest/ mesic sites. Occurs nearby in Pitkin Marsh 455-2000 m. Blooms Jul-Aug.</td>
<td>A</td>
<td>Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>Burke's goldfields</td>
<td><em>Lasthenia burkii</em></td>
<td>FE SE</td>
<td>Vernal pools &amp; swales, meadows &amp; seeps. 15-580m. Blooms Apr-Jun.</td>
<td>A</td>
<td>No suitable vernal pool habitat present within the BSA.</td>
</tr>
<tr>
<td>California beaked-rush</td>
<td><em>Rhynchospora californica</em></td>
<td>CNPS 1B.1</td>
<td>Bogs &amp; fens, marshes &amp; swamps, lower montane coniferous forest, meadows &amp; seeps. Freshwater seeps &amp; open marshy areas. 45-1000 m. Blooms May-Jul.</td>
<td>A</td>
<td>Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Status</td>
<td>General Habitat Description</td>
<td>Habitat Present/Absent</td>
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</tr>
<tr>
<td>Crystal Springs lessingia</td>
<td>Lessingia arachnoidea</td>
<td>CNPS 1B.2</td>
<td>Coastal sage scrub, valley &amp; foothill grassland, cismontane woodland, grassy slopes on serpentine; sometimes on roadsides. 60-200 m. Blooms Jul-Oct.</td>
<td>A</td>
<td>Serpentine soils not present within the BSA or project vicinity.</td>
</tr>
<tr>
<td>fragrant fritillary</td>
<td>Fritillaria liliacea</td>
<td>CNPS 1B.2</td>
<td>Coastal scrub, valley &amp; foothill grassland, coastal prairie. Often on serpentine; various soils reported though usually clay, in grassland. 3-410 m. Blooms Feb-Apr.</td>
<td>A</td>
<td>Serpentine soils not present within the BSA or project vicinity.</td>
</tr>
<tr>
<td>golden larkspur</td>
<td>Delphinium luteum</td>
<td>FE SR CNPS 1B.1</td>
<td>Chaparral, coastal prairie, coastal scrub on N. facing, rocky slopes. 0-100 m. Blooms Mar-May.</td>
<td>A</td>
<td>No chaparral, coastal prairie or coastal scrub present.</td>
</tr>
<tr>
<td>Greene’s narrow-leaved daisy</td>
<td>Erigeron greenei</td>
<td>CNPS 1B.2</td>
<td>Chaparral. Serpentine &amp; volcanic substrates, generally in shrubby vegetation. 75-1060m. Blooms May-Sept.</td>
<td>A</td>
<td>No chaparral present.</td>
</tr>
<tr>
<td>holly-leaved ceanothus</td>
<td>Ceanothus purpureus</td>
<td>CNPS 1B.2</td>
<td>Chaparral on rocky, volcanic slopes. 120-640 m. Blooms Feb-Jun.</td>
<td>A</td>
<td>No chaparral present and lack of volcanic soils.</td>
</tr>
<tr>
<td>Napa false indigo</td>
<td>Amorpha californica var. napensis</td>
<td>CNPS 1B.2</td>
<td>Broadleafed upland forest, chaparral, cismontane woodland. Openings in forest or woodland or in chaparral. 150-2000m. Blooms Apr-Jul.</td>
<td>A</td>
<td>No broadleafed upland forest, chaparral, or cismontane woodland present.</td>
</tr>
<tr>
<td>North coast semaphore grass</td>
<td>Pleuropogon hooverianus</td>
<td>ST CNPS 1B.1</td>
<td>Broadleafed upland forest, meadows &amp; seeps, north coast coniferous forest. Wet grassy, usually shady areas, sometimes freshwater marsh; associated with forest environments. 10-1150 m. Blooms Apr-Aug.</td>
<td>A</td>
<td>Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>Pennell's bird's-beak</td>
<td>Cordylanthus tenuis ssp. capillaris</td>
<td>FE SR CNPS 1B.2</td>
<td>Closed-cone coniferous forest, chaparral. In open or disturbed areas on serpentine w/in forest or chaparral. 45-305 m. Blooms Jun-Sept.</td>
<td>A</td>
<td>No closed-cone coniferous forest or chaparral present. No serpentine present.</td>
</tr>
<tr>
<td>Pitkin Marsh Indian paintbrush</td>
<td>Castilleja uliginosa</td>
<td>SE CNPS 1A</td>
<td>Freshwater marsh. Last known remaining plant died 1987. 60 m. Blooms Jun-Jul.</td>
<td>A</td>
<td>No wetlands present. Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>Pitkin Marsh lily</td>
<td>Lilium pardalinum ssp. pitkinense</td>
<td>FE SE CNPS 1B.1</td>
<td>Cismontane woodland, meadows &amp; seeps, freshwater marsh on saturated sandy soils w/ grasses &amp; shrubs. 35-65 m. Blooms Jun-Jul.</td>
<td>A</td>
<td>No wetlands present. Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Status</td>
<td>General Habitat Description</td>
<td>Habitat Present/ Absent</td>
<td>Rationale</td>
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</tr>
<tr>
<td>Rincon Ridge ceanothus</td>
<td>Ceanothus confusus</td>
<td>CNPS 1B.1</td>
<td>Closed-cone coniferous forest, chaparral, cismontane woodland. Known from volcanic or serpentinite soils, dry shrubby slopes. 75-1065 m. Blooms Feb-Jun.</td>
<td>A</td>
<td>No closed-cone coniferous forest, chaparral or cismontane woodland present. Soil types on site dissimilar to those listed for species.</td>
</tr>
<tr>
<td>Rincon Ridge manzanita</td>
<td>Arctostaphylos stanfordiana ssp. decumbens</td>
<td>CNPS 1B.1</td>
<td>Chaparral. Highly restricted-endemic to red rhyolites in Sonoma Co. 75-370 m. Blooms Feb-Apr.</td>
<td>A</td>
<td>No chaparral present. No red rhyolite soils.</td>
</tr>
<tr>
<td>round-headed beaked-rush</td>
<td>Rhynchospora globularis var. globularis</td>
<td>CNPS 2.1</td>
<td>Freshwater marshes &amp; swamps. 45-60 m. Blooms Jul-Aug.</td>
<td>A</td>
<td>No wetlands present. Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>saline clover</td>
<td>Trifolium depauperatum var. hydrophilum</td>
<td>CNPS 1B.2</td>
<td>Marshes &amp; swamps, valley &amp; foothill grassland, vernal pools, mesic, alkaline sites. 0-300 m. Blooms Apr-Jun.</td>
<td>A</td>
<td>Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>seaside tarplant</td>
<td>Hemizonia congesta ssp. congesta</td>
<td>CNPS 1B.2</td>
<td>Coastal scrub, valley and foothill grassland. Grassy valleys and hills, often in fallow fields. 25-200M. Blooms Apr-Jun.</td>
<td>A</td>
<td>Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>Sebastopol meadowfoam</td>
<td>Limnanthes vinculans</td>
<td>FE SE CNPS 1B.1</td>
<td>Vernal pools, wet meadows &amp; seeps, marshy areas in valley oak savannah &amp; valley &amp; foothill grassland, poorly drained soils (clays &amp; sandy loams). 15-305 m. Blooms Apr-May.</td>
<td>A</td>
<td>The BSA contains no vernal pools. Plant was not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>serpentine daisy</td>
<td>Erigeron serpentinus</td>
<td>CNPS 1B.3</td>
<td>Seeps in chaparral, serpentine shrubland. 60-670 m. Blooms May-Aug.</td>
<td>A</td>
<td>No chaparral or serpentine shrubland present.</td>
</tr>
<tr>
<td>Sonoma alopecurus</td>
<td>Alopecurus aequalis var. sonomensis</td>
<td>FE CNPS 1B.1</td>
<td>Freshwater marshes &amp; swamps, riparian scrub. Wet areas, marshes &amp; riparian banks w/ other wetland species. 5-360 m. Blooms May-Jul.</td>
<td>A</td>
<td>No wetlands present. Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>swamp harebell</td>
<td>Campanula californica</td>
<td>CNPS 1B.2</td>
<td>Bogs &amp; fens, closed cone coniferous forest, coastal prairie, meadows, freshwater marsh, North Coast coniferous forest. Bogs &amp; marshes in a variety of habitats; uncommon where it occurs. 1-504 m. Blooms Jun-Oct.</td>
<td>A</td>
<td>No wetlands present. Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Status</td>
<td>General Habitat Description</td>
<td>Habitat Present/ Absent</td>
<td>Rationale</td>
</tr>
<tr>
<td>----------------------</td>
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</tr>
<tr>
<td>The Cedars Manzanita</td>
<td><em>Arctostaphylos bakeri ssp. sublaevis</em></td>
<td>SR CNPS 1B.2</td>
<td>Chaparral, closed-cone coniferous forest. Entire species listed State Rare. In serpentine chaparral and Sargent cypress woodland; typically in canyons and on slopes. 275-600m.</td>
<td>Absent</td>
<td>No chaparral or closed-cone coniferous forest present.</td>
</tr>
<tr>
<td>thin-lobed horkelia</td>
<td><em>Horkelia tenuiloba</em></td>
<td>CNPS 1B.2</td>
<td>Coastal scrub, chaparral. Sandy soil; mesic openings. 45-500 m. Blooms May-Jul.</td>
<td>Absent</td>
<td>No coastal scrub or chaparral present.</td>
</tr>
<tr>
<td>Thurber's reed grass</td>
<td><em>Calamagrostis crassiglumis</em></td>
<td>CNPS 2.1</td>
<td>Coastal scrub, freshwater marsh. Usually in marshy swales surrounded by grassland or coastal scrub. 10-45 m. Blooms May-Jul.</td>
<td>Absent</td>
<td>Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>two-fork clover</td>
<td><em>Trifolium amoenum</em></td>
<td>FE CNPS 1B.1</td>
<td>Valley &amp; foothill grassland, coastal bluff scrub. Sometimes on serpentine soil, open, sunny sites, swales. Most recently sighted on roadside &amp; eroding cliff face. 5-560m. Blooms Apr-Jun.</td>
<td>Absent</td>
<td>Plant species is highly susceptible to competition from non-native plants and has been extirpated from much of its range. Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>Vine Hill ceanothus</td>
<td><em>Ceanothus foliosus var. vineatus</em></td>
<td>CNPS 1B.1</td>
<td>Chaparral on sandy, acidic soil. 45-305 m. Blooms Mar-May.</td>
<td>Absent</td>
<td>No chaparral present and BSA lacks intact acidic marine soils.</td>
</tr>
<tr>
<td>Vine Hill clarkia</td>
<td><em>Clarkia imbricata</em></td>
<td>FE SE CNPS 1B.1</td>
<td>Chaparral, valley &amp; foothill grassland on acidic, sandy soil. 50-75 m. Blooms Jun-Aug.</td>
<td>Absent</td>
<td>No chaparral present and BSA lacks intact acidic marine soils.</td>
</tr>
<tr>
<td>Vine Hill manzanita</td>
<td><em>Arctostaphylos densiflora</em></td>
<td>SE CNPS 1B.1</td>
<td>Chaparral on acid marine sand. 50-120 m. Blooms Feb-Apr.</td>
<td>Absent</td>
<td>No chaparral present and BSA lacks intact acidic marine soils.</td>
</tr>
<tr>
<td>white beaked-rush</td>
<td><em>Rhynchospora alba</em></td>
<td>CNPS 2.2</td>
<td>Freshwater marshes &amp; swamps, sphagnum bogs. 60-2040 m. Blooms Jul-Aug.</td>
<td>Absent</td>
<td>No wetlands present. Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>white sedge</td>
<td><em>Carex albida</em></td>
<td>FE SE CNPS 1B.1</td>
<td>Freshwater marsh, bogs &amp; fens, wet meadows &amp; seeps. 15-90 m. Blooms May-Jul.</td>
<td>Absent</td>
<td>No wetlands present. Not found during plant surveys and is not known to occur in BSA.</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Status</td>
<td>General Habitat Description</td>
<td>Habitat Present/Absent</td>
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<tr>
<td>INVERTEBRATES</td>
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</tr>
<tr>
<td>California freshwater shrimp</td>
<td>Syncaris pacifica</td>
<td>FE</td>
<td>Endemic to Marin, Napa &amp; Sonoma Cos. Low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main stream flow. Winter: undercut banks w/ exposed roots. Summer: leafy branches touching water.</td>
<td>A</td>
<td>There are no streams in the project footprint. CFS is known to occur in Green Valley Creek, which is located approximately 0.5 mile west of the western project limits.</td>
</tr>
<tr>
<td>Giuliani's dubiraphian riffle beetle</td>
<td>Dubiraphia giulianii</td>
<td>None</td>
<td>Aquatic; found in the slow part of the Russian River. Inhabits rocks &amp; vegetation.</td>
<td>A</td>
<td>The project will not impact the Russian River.</td>
</tr>
<tr>
<td>Myrtle’s silverspot butterfly</td>
<td>Speyeria zerene myrtleae</td>
<td>FE</td>
<td>Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; larval food plant thought to be Viola adunca.</td>
<td>A</td>
<td>The project is outside of the known range for this species. No coastal dunes/hills present.</td>
</tr>
<tr>
<td>FISH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>California coastal chinook salmon</td>
<td>Oncorhynchus tsawytscha</td>
<td>FT</td>
<td>Federal listing refers to wild spawned, coastal, spring &amp; fall runs between Redwood Creek, Humboldt Co &amp; Russian River, Sonoma Co.</td>
<td>A</td>
<td>There are no salmonid streams within the project limits. Green Valley Creek is the nearest salmonid bearing stream located 0.5 miles west of the project limits.</td>
</tr>
<tr>
<td>Central California Coast coho salmon</td>
<td>Oncorhynchus kisutch</td>
<td>FE</td>
<td>Listing includes all naturally spawned populations of coho salmon from Punta Gorda in northern California south to the San Lorenzo River in central California (inclusive). Need cover, cool water &amp; sufficient dissolved oxygen.</td>
<td>A</td>
<td>There are no salmonid streams within the project limits. Green Valley Creek is the nearest salmonid bearing stream located 0.5 miles west of the project limits.</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Status</td>
<td>General Habitat Description</td>
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</tr>
<tr>
<td>Central California Coastal steelhead</td>
<td><em>Oncorhynchus mykiss</em></td>
<td>FT</td>
<td>From Russian River south to Soquel Creek &amp; to, but not including, Pajaro River. Also includes San Francisco &amp; San Pablo Bay basins.</td>
<td>A</td>
<td>There are no salmonid streams within the project limits. Green Valley Creek is a salmonid stream located 0.5 miles west of the project limits.</td>
</tr>
<tr>
<td>Russian River tule perch</td>
<td><em>Hysterocarpus traskii pomo</em></td>
<td>SSC</td>
<td>Low elevation streams of the Russian River system. Require clear, flowing water w/ abundant cover and deep (&gt; 1m) pool habitat.</td>
<td>A</td>
<td>There are no streams in the project footprint. Green Valley Creek is located 0.5 miles west of the project limits. Tule perch have been observed in Green Valley Creek (CDFG, 2000).</td>
</tr>
</tbody>
</table>

**AMPHIBIANS**

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Status</th>
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</tr>
</thead>
<tbody>
<tr>
<td>California red-legged frog</td>
<td><em>Rana draytonii</em></td>
<td>FT</td>
<td>Lowlands &amp; foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to aestivalation habitat.</td>
<td>A</td>
<td>No breeding habitat or summer holding habitat is present in the BSA.</td>
</tr>
<tr>
<td>California tiger salamander (CTS)</td>
<td><em>Ambystoma californiense</em></td>
<td>FE</td>
<td>Central Valley populations listed as threatened. Santa Barbara &amp; Sonoma county populations listed as endangered. Found associated with long lasting vernal pools or other seasonal water sources for breeding. Need underground refuges, especially ground squirrel burrows.</td>
<td>A</td>
<td>The project area is not within the boundaries of the Santa Rosa Plain or within the known range of CA tiger salamander. The project site lacks necessary vernal pool habitat.</td>
</tr>
<tr>
<td>foothill yellow-legged frog</td>
<td><em>Rana boylii</em></td>
<td>SSC</td>
<td>Partly shaded, shallow streams &amp; riffles w/ rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying &amp; at least 15 weeks to attain metamorphosis.</td>
<td>A</td>
<td>The unknown tributary to Green Valley Creek may provide habitat. However, foothill yellow-legged frogs are highly aquatic and would not move away from the stream corridor into the BSA.</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Status</td>
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<td>---------------------------------------------------------------------------------------------</td>
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<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>REPTILES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>western pond turtle</td>
<td><em>Actinemys marmorata</em></td>
<td>SSC</td>
<td>Associated w/ permanent or nearly permanent water in a wide variety of habitats.</td>
<td>HP</td>
<td>The BSA could provide upland nesting and aestivation habitat for western pond turtle.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Requires basking sites. Nests may be found up to 0.5 km from water.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BIRDS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>marbled murrelet</td>
<td><em>Brachyramphus marmoratus</em></td>
<td>FT SE</td>
<td>(Nesting). Feeds near-shore; nests inland along coast, from Eureka to Oregon border &amp; from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas firs.</td>
<td>A</td>
<td>No old growth forest present. Project is approximately 12 miles inland.</td>
</tr>
<tr>
<td>northern spotted owl</td>
<td><em>Strix occidentalis caurina</em></td>
<td>FT SSC</td>
<td>Old-growth forests or mixed stands of old-growth &amp; mature trees. Occasionally in younger forests w/patches of big trees. High, multistory canopy dominated by big trees, many trees w/cavities or broken tops woody debris &amp; space under canopy.</td>
<td>A</td>
<td>No forest present. Project is located in developed area.</td>
</tr>
<tr>
<td>osprey</td>
<td><em>Pandion haliaetus</em></td>
<td>None</td>
<td>(Nesting). Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of good fish-producing body of water.</td>
<td>A</td>
<td>BSA lacks suitable trees for nesting, and no nests were observed during site surveys.</td>
</tr>
<tr>
<td>white-tailed kite</td>
<td><em>Elanus leucurus</em></td>
<td>Fully Protected</td>
<td>(Nesting). Rolling foothills and valley margins with scattered oaks &amp; river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.</td>
<td>HP</td>
<td>Oak trees located in or adjacent to the BSA provide suitable nesting habitat, and grasslands in and adjacent to the BSA could provide foraging habitat.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MAMMALS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American badger</td>
<td><em>Taxidea taxus</em></td>
<td>SSC</td>
<td>Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils, and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.</td>
<td>A</td>
<td>Limited grassland present in Staging Area 1. However, ground is disturbed by discing and mowing. No badger burrows observed during site visit.</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Status</td>
<td>General Habitat Description</td>
<td>Habitat Present/Absent</td>
<td>Rationale</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------</td>
<td>--------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------</td>
<td>-----------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>pallid bat</td>
<td><em>Antrozous pallidus</em></td>
<td>SSC</td>
<td>Deserts, grasslands, shrublands, woodlands &amp; forests. Most common in open dry habitats w/ rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.</td>
<td>HP</td>
<td>Habitat may be present. Occasionally roosts in hollow trees. Historic occurrence mapped as “Forestville.”</td>
</tr>
<tr>
<td>Sonoma tree vole</td>
<td><em>Arborimus pomo</em></td>
<td>SSC</td>
<td>North coast fog belt from Oregon border to Sonoma Co. In Douglas fir, redwood &amp; montane hardwood-conifer forests. Feeds almost exclusively on Douglas fir needles. Will occasionally take needles of grand fir, hemlock or spruce.</td>
<td>A</td>
<td>No coniferous forest or Douglas fir present</td>
</tr>
</tbody>
</table>

Notes:
Absent [A] - no habitat present and no further work needed. Habitat Present [HP] - habitat is, or may be present. The species may be present. Present [P] - the species is present. Critical Habitat [CH] - project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present. Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC), Federal Species of Concern (FSC); State Candidate (SC); State Endangered (SE); State Threatened (ST); Fully Protected (FP); State Rare (SR); State Species of Special Concern (SSC); California Native Plant Society (CNPS), etc.
County of Sonoma  
Permit and Resource Management Department  
2550 Ventura Ave  
Santa Rosa, CA 95403  
Attn: Laura Peltz

Dear Ms. Peltz,

I am writing this letter in regards to the State Route 116 at Mirabel Road Intersection Improvement Project.

You have requested that the Forestville Fire District provide you with comments on the potential environmental effects, what permits our agency would require, and any mitigation measures or other conditions your agency would recommend.

The Forestville Fire District is unaware of any environmental effects resulting from the project and will not require any permits for the project however; the District would be remiss in not mentioning the following issues, indirectly and directly related to this project.

As the Chief of the Forestville Fire District I feel it is important to bring following information to the attention of both the County of Sonoma and the State of California as it relates to traffic safety along Hwy 116 within the District. A review of the accident history on Hwy 116, within the Forestville Fire District, over the past several years indicates that there have been over 85 vehicle accidents on Hwy 116 between Guerneville Road and Green Valley Road (west of the town of Forestville). Approximately half of the accidents have occurred between Guerneville Road and the town of Forestville, approximately 4 have occurred in area in which this improvement project will take place and the remainder between the town of Forestville and Green Valley Road. Many of these accidents between Guerneville Road and the town of Forestville were rear end accidents possibly due to a lack of adequate turn lanes in the area. A search of the California Highway Patrol records my shed some additional light on this issue. Additional research should be conducted regarding this important public safety issue.

In regards to the roundabout project the Forestville Fire Station is located just a few hundred feet north of the intersection on Mirabel Road. As the Fire Chief I am concerned that the splitter (median), proposed for Mirabel Road in particular, will create difficulties for Forestville District emergency vehicles responding from the fire station, code 3 (lights and siren) through the roundabout. I am specifically concerned that civilian vehicles that have entered the splitter median portion of the roundabout, as emergency vehicles responding code 3 approach, will pull to the right as required by law and block the proposed 12’ roadway between the curb and the splitter median. I am not able to make mitigation recommendations regarding this issue other than to require all Forestville Fire District emergency vehicles responding code 3 reduce their response to code 2 (no lights and siren) as they enter the
splitter median area and then to increase to code 3 again as they exit the roundabout. Unfortunately this measure will cause delays in emergency response.

The Forestville Fire District would be more than willing to work with you to resolve these concerns.

Respectfully Submitted,

Dan Northern
Fire Chief
Forestville Fire Protection District
6554 Mirabel Road
P.O. Box 427
Forestville, CA 95436
Office: (707) 887-2212
Fax: (707) 887-1862
Cell: (707) 536-8991
MEMORANDUM

DATE: October 7, 2010
TO: Laura Peltz, Environmental Specialist
    Sonoma County Permit & Resource Management Department
FROM: Ken Tam, Park Planner II
SUBJECT: State Route 116 at Mirabel Road Intersection Improvement Project

Thank you for the opportunity to review and comment. At this time we do not have any comments on the potential environmental effects of the project. Please keep us informed on any design changes that may affect how the proposed Class I bike path will interface with the roundabout at the intersection of Highway 116 and Mirabel Road. For more information on the proposed Class I bike path alignment, please refer to PLP07-0062.

If you have any questions, please call me at 565-3348.

c: Sonoma County Transportation and Public Works Department: Kevin Howze,
    Mitch Simson
    Steven Schmitz, Sonoma County Transit, SCBPAC, CBPAC
    Sonoma County Regional Parks: Jon Jainga
Laura Peltz

From: Steven Schmitz [steven@octransit.com]
Sent: October 14, 2010 1:25 PM
To: Laura Peltz
Cc: Gary Helfrich; Mitch Simson; Ken Tam
Subject: Comments on 116 & Mirabel Intersection Project

Dear Laura:

On behalf of the Sonoma County Bicycle and Pedestrian Advisory Committee (SCBPAC), thank you for the opportunity to comment on the Notice to Receive Environmental Review for the State Route 116 at Mirabel Road Intersection Improvement Project. The SCBPAC had the opportunity to review the preliminary design for the proposed round-about during their meeting on August 19, 2009.

The preliminary project description indicates that sidewalks for use by both bicyclists and pedestrian will be located on the outside of the round-about in all four quadrants of the intersection. Experienced bicyclists could choose to utilize the round-about with motor vehicles and novice bicyclists would have the option of exiting the roadway to a shared bicycle and pedestrian sidewalk/pathway and cross at the sidewalks.

In the final design of the round-about, attention should be given to the transition from the roadway to the shared sidewalks/pathways. Whenever bicyclists are directed from roadways to shared sidewalks/pathways, curb cuts should be flush with the street to assure that bicyclists are not subjected to problems associated with crossing a vertical lip at a flat angle. Similar curb cuts at each of the crosswalks are also necessary, as well as the installation of appropriate bikeway yield or stop signs at each of the transitions from roadway to sidewalk/pathway and at each of the crosswalks. All curb cuts should be wide enough to accommodate adult tricycles and two-wheel bicycle trailers. The shared sidewalk/pathways should be minimum 10-feet wide and a center line stripe or other treatment is preferred to encourage the segregation of bicyclists and pedestrians.

Also, the final design of the round-about should assume future Class II bicycle lanes approaching from all four quadrants. It is preferable to discontinue Class II bicycle lanes 35 to 65 feet before reaching the round-about, rather than continuing the bicycle lane through the round-about. Where the bicycle lanes end at each of the approaches, ‘Share the Road’ bicycle caution signs are recommended.

Once again, thank you for the opportunity to comment. Should you have any questions, please feel free to contact me at 585-7516.

Sincerely,

Steven Schmitz, Staff
Sonoma County Bicycle & Pedestrian Advisory Committee

Cc: Gary Helfrich, PRMD
    Mitch Simson, TPW
    Ken Tam, Regional Parks
Laura Peltz

From: Glenn Lawrence  
Sent: October 16, 2010 5:16 PM  
To: Laura Peltz  
Subject: Hwy 116 at Mirabel RD IIP

Laura Peltz  
Environmental Specialist,

Highway 116 at Mirabel Road Roundabout Environmental Review

I will be person of contact for the Sheriff’s Office if the need arises and if issues are brought forward. I received the notice of project to receive environmental review letter, and from a Law Enforcement perspective I do not see any obvious issues that would be of concern at this point in the process.

Thank you and I will try to keep abreast of the issues related to this project.

Lieutenant Glenn Lawrence  
Sonoma County Sheriff’s Office  
2796 Ventura Avenue  
Santa Rosa CA. 95403  
(707) 565-6011
### Appendix J: List of Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB</td>
<td>Assembly Bill</td>
</tr>
<tr>
<td>ACOE</td>
<td>U.S. Army Corps of Engineers</td>
</tr>
<tr>
<td>ADA</td>
<td>Americans with Disabilities Act</td>
</tr>
<tr>
<td>ADL</td>
<td>Aerially deposited lead</td>
</tr>
<tr>
<td>APN</td>
<td>Assessor Parcel Number</td>
</tr>
<tr>
<td>ARB</td>
<td>California Air Resources Board</td>
</tr>
<tr>
<td>AST</td>
<td>aboveground storage tank</td>
</tr>
<tr>
<td>BAT/BCT</td>
<td>Best Available Technology/Best Conventional Pollution Control Technology</td>
</tr>
<tr>
<td>BMP</td>
<td>Best Management Practice</td>
</tr>
<tr>
<td>Caltrans</td>
<td>California Department of Transportation</td>
</tr>
<tr>
<td>CDFG</td>
<td>California Department of Fish and Game</td>
</tr>
<tr>
<td>CEQ</td>
<td>Council on Environmental Quality</td>
</tr>
<tr>
<td>CEQA</td>
<td>California Environmental Quality Act</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation and Liability Act of 1980</td>
</tr>
<tr>
<td>CESA</td>
<td>California Endangered Species Act</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>CNDDB</td>
<td>California Natural Diversity Data Base</td>
</tr>
<tr>
<td>CNPS</td>
<td>California Native Plant Society</td>
</tr>
<tr>
<td>CO</td>
<td>carbon monoxide</td>
</tr>
<tr>
<td>CO$_2$</td>
<td>carbon dioxide</td>
</tr>
<tr>
<td>County</td>
<td>County of Sonoma</td>
</tr>
<tr>
<td>CRHR</td>
<td>California Register of Historic Resources</td>
</tr>
<tr>
<td>CRLF</td>
<td>California red-legged frog</td>
</tr>
<tr>
<td>CTP</td>
<td>Comprehensive Transportation Plan</td>
</tr>
<tr>
<td>CTS</td>
<td>California tiger salamander</td>
</tr>
<tr>
<td>CWA</td>
<td>Clean Water Act</td>
</tr>
<tr>
<td>dBA</td>
<td>A-weighted decibel</td>
</tr>
<tr>
<td>dBA L$_{\text{max}}$</td>
<td>maximum A-weighted noise level during the measurement period</td>
</tr>
<tr>
<td>Department</td>
<td>California Department of Transportation</td>
</tr>
<tr>
<td>DSA</td>
<td>disturbed soil area</td>
</tr>
<tr>
<td>DTPW</td>
<td>Sonoma County Department of Transportation and Public Works</td>
</tr>
<tr>
<td>EDR</td>
<td>Environmental Data Resources, Inc.</td>
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<tr>
<td>EIR</td>
<td>Environmental Impact Report</td>
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<tr>
<td>EP</td>
<td>edge of pavement</td>
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<tr>
<td>Acronym</td>
<td>Full Form</td>
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<td>----------</td>
<td>----------------------------------------------</td>
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<tr>
<td>EPA</td>
<td>U.S. Environmental Protection Agency</td>
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<td>FCCA</td>
<td>Federal Clean Air Act</td>
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<tr>
<td>FESA</td>
<td>Federal Endangered Species Act</td>
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<td>FFPD</td>
<td>Forestville Fire Protection District</td>
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<td>FHWA</td>
<td>Federal Highway Administration</td>
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<tr>
<td>FPPA</td>
<td>Farmland Protection Policy Act</td>
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<tr>
<td>GHG</td>
<td>greenhouse gas</td>
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<tr>
<td>H₂S</td>
<td>hydrogen sulfide</td>
</tr>
<tr>
<td>HAS</td>
<td>Hydrologic Sub Area</td>
</tr>
<tr>
<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
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<tr>
<td>IS</td>
<td>Initial Study</td>
</tr>
<tr>
<td>Leq</td>
<td>equivalent sound level</td>
</tr>
<tr>
<td>LOS</td>
<td>Level of service</td>
</tr>
<tr>
<td>MCE</td>
<td>Maximum credible earthquake</td>
</tr>
<tr>
<td>MLD</td>
<td>Most Likely Descendant</td>
</tr>
<tr>
<td>MND</td>
<td>Mitigated Negative Declaration</td>
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<tr>
<td>mpg</td>
<td>miles per gallon</td>
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<tr>
<td>mph</td>
<td>miles per hour</td>
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<tr>
<td>MTC</td>
<td>Metropolitan Transportation Commission</td>
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<td>NAAQS</td>
<td>National Ambient Air Quality Standards</td>
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<td>NAHC</td>
<td>Native American Heritage Commission</td>
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<td>NHTSA</td>
<td>National Highway Traffic Safety Administration</td>
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<td>NO₂</td>
<td>nitrogen dioxide</td>
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<tr>
<td>NO₂</td>
<td>National Oceanic and Atmospheric Administration’s National Marine Fisheries Service</td>
</tr>
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<td>NOC</td>
<td>Notice of Construction</td>
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<td>NOCC</td>
<td>Notice of Completion of Construction</td>
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<tr>
<td>NOI</td>
<td>Notice of Intent</td>
</tr>
<tr>
<td>NOT</td>
<td>Notice of Termination</td>
</tr>
<tr>
<td>NOx</td>
<td>nitrogen oxides</td>
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<tr>
<td>NPDES</td>
<td>National Pollutant Discharge Elimination System</td>
</tr>
<tr>
<td>NRCS</td>
<td>Natural Resources Conservation Service</td>
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<td>National Register of Historic Places</td>
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<td>NSCAPCD</td>
<td>Northern Sonoma County Air Pollution Control District</td>
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<td>O₃</td>
<td>Ozone</td>
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<td>OSRC</td>
<td>Opens Space and Resource Conservation</td>
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<tr>
<td>Acronym</td>
<td>Full Name</td>
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</tr>
<tr>
<td>OSTP</td>
<td>Office of Science and Technology Policy</td>
</tr>
<tr>
<td>PAL</td>
<td>Project Area Limits</td>
</tr>
<tr>
<td>Pb</td>
<td>lead</td>
</tr>
<tr>
<td>PDT</td>
<td>Project Development Team</td>
</tr>
<tr>
<td>PM</td>
<td>Post mile</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>particulate matter less than 10 micrometers in diameter</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>particulate matter less than 2.5 micrometers in diameter</td>
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<td>Public Resources Code</td>
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<td>PRMD</td>
<td>Sonoma County Permit and Resource Management Department</td>
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<tr>
<td>PS&amp;E</td>
<td>Plans, Specifications &amp; Estimates</td>
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<td>RAP</td>
<td>Relocation Assistance Program</td>
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<td>RCRA</td>
<td>Resource Conservation and Recovery Act of 1976</td>
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<tr>
<td>REC</td>
<td>Recognized Environmental Condition</td>
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<td>Right of way</td>
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<td>RWQCB</td>
<td>Regional Water Quality Control Board</td>
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<td>SCTA</td>
<td>Sonoma County Transportation Authority</td>
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<td>SHPO</td>
<td>State Historic Preservation Office(r)</td>
</tr>
<tr>
<td>SIP</td>
<td>State Implementation Plan</td>
</tr>
<tr>
<td>SLPP</td>
<td>State-Local Partnership Program</td>
</tr>
<tr>
<td>SO₂</td>
<td>sulfur dioxide</td>
</tr>
<tr>
<td>SOₓ</td>
<td>sulfur oxides</td>
</tr>
<tr>
<td>SR</td>
<td>State Route</td>
</tr>
<tr>
<td>SWMP</td>
<td>Storm Water Management Plan</td>
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<td>SWPPP</td>
<td>Storm Water Pollution Prevention Plan</td>
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<td>SWRCB</td>
<td>State Water Resources Control Board</td>
</tr>
<tr>
<td>TMDLs</td>
<td>Total Maximum Daily Loads</td>
</tr>
<tr>
<td>TNAP</td>
<td>Traffic Noise Analysis Protocol</td>
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<td>USACE</td>
<td>U.S. Army Corps of Engineers</td>
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<td>US EPA</td>
<td>U.S. Environmental Protection Agency</td>
</tr>
<tr>
<td>USC</td>
<td>United States Code</td>
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<tr>
<td>USDA</td>
<td>U.S. Department of Agriculture</td>
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<td>USFWS</td>
<td>U.S. Fish and Wildlife Service</td>
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<tr>
<td>UST</td>
<td>underground storage tank</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
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<td>----------------------------------</td>
</tr>
<tr>
<td>VIA</td>
<td>Visual Impact Assessment</td>
</tr>
<tr>
<td>VMT</td>
<td>vehicle miles traveled</td>
</tr>
<tr>
<td>VOC</td>
<td>volatile organic compound</td>
</tr>
<tr>
<td>vpd</td>
<td>vehicles per day</td>
</tr>
<tr>
<td>WPCP</td>
<td>Water Pollution Control Plan</td>
</tr>
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</table>
Appendix K: Comments on the Initial Study

Introduction

Caltrans, in cooperation with the County, circulated the SR 116 at Mirabel Road Intersection Improvement Project Initial Study with Proposed Mitigated Negative Declaration for public review from January 18 through February 19, 2013. This appendix presents the public comments received on the IS and the responses to those comments.

Comments and Responses

State, regional, and local agencies and representatives, private organizations, and individuals submitted comments in the form of emails, letters, comment cards, and comments given to the court reporter at the public meeting on February 6, 2013. The table of comments and responses that begins on the next page lists each entity and individual that submitted comments. The comments and responses are presented in the following order:

Section 1: Master Responses

Section 2: Comments and Responses

A: State, Regional and Local Agencies

B: Written Comments from Individuals and Organizations

C: Comments given to the Court Reporter at the February 6, 2013 Public Meeting

Any text changes resulting from the comments are summarized in the responses and have been incorporated into the text of the Initial Study. Revisions made after the public review period are indicated by a vertical line in the margin of the Initial Study text, similar to the one shown to the left of this paragraph.
# Table of Comments and Responses

## Section 1: Master Responses

<table>
<thead>
<tr>
<th>Master Response</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Traffic Impacts and Emergency Response: Oversize Quarry Transport Vehicle</td>
<td>4</td>
</tr>
<tr>
<td>2: Accident Data for the Existing Intersection</td>
<td>7</td>
</tr>
<tr>
<td>3: Stop Signs and/or Left Turn Lane on SR 116</td>
<td>7</td>
</tr>
<tr>
<td>4: Effect of the Roundabout on Emergency Response Time</td>
<td>8</td>
</tr>
<tr>
<td>5: Sizing of the Roundabout for Trucks</td>
<td>10</td>
</tr>
<tr>
<td>6: Project Funding and Prioritization of the Project</td>
<td>15</td>
</tr>
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## Section 2: Comments and Responses

**A. State, Regional and Local Agencies**

<table>
<thead>
<tr>
<th>Agency</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Clearinghouse</td>
<td>17</td>
</tr>
<tr>
<td>California Department of Conservation, 2-4-13</td>
<td>20</td>
</tr>
<tr>
<td>California Department of Conservation, 2-15-13</td>
<td>22</td>
</tr>
<tr>
<td>Sonoma County Regional Parks Department</td>
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**B. Written Comments from Individuals and Organizations**

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<tr>
<td>Bertero, Jackie</td>
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</tr>
<tr>
<td>Bordessa, Allison</td>
<td>29</td>
</tr>
<tr>
<td>Brown, Ken, 2-6-13</td>
<td>31</td>
</tr>
<tr>
<td>Brown, Ke, 2-12-13</td>
<td>43</td>
</tr>
<tr>
<td>Carlile Macy, Representing Canyon Rock Quarry</td>
<td>49</td>
</tr>
<tr>
<td>Conway, Brenda</td>
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</tr>
<tr>
<td>Gardner Family</td>
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</tr>
<tr>
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<td>58</td>
</tr>
<tr>
<td>Naegle, Richard</td>
<td>60</td>
</tr>
<tr>
<td>Ritchie, Kent</td>
<td>62</td>
</tr>
<tr>
<td>Spitzer, Kathleen and Stephen Miller</td>
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</tr>
<tr>
<td>Steiger, Macondray John</td>
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<td>Tibbetts, Nick, Consultant for Canyon Rock Quarry</td>
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<td>Trappe, Wendel, Canyon Rock Co. Inc</td>
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<td>Wood, Hal</td>
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**C. Comments given to the Court Reporter at the February 6, 2013 Public Meeting**

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<tr>
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Section 1. Master Responses

Introduction

A review of the comments revealed several comments that were similar or closely related in nature, demonstrating a concern that was widespread among those people commenting. To allow presentation of a response that addresses multiple aspects of these related comments, Master Responses have been prepared where appropriate. The Master Responses are intended to allow an-integrated response addressing various facets of a particular issue. The use of a Master Response is in no way intended to minimize the importance of the individual comments.

Master Response 1- Traffic Impacts and Emergency Response: Oversize Quarry Transport Vehicle

As described in Section 2.1.7.1 of the Initial Study, the roundabout has been sized for the California Legal design vehicle (see also Master Response 5). As with the existing intersection, oversized loads would be required to get an encroachment permit from Caltrans in order to travel through the roundabout.

During the development of the project design, Canyon Rock Quarry raised concerns that the oversized nine-axle transport vehicle (“low bed” truck) that is used to transport quarry equipment would not be able to travel through the roundabout. Turning movements for the nine-axle transport vehicle were field tested on February 10, 2010 at the Sonoma County Airport on a roundabout laid out to scale with measurements taken to confirm that the loaded trailer could navigate the roundabout as designed, using the quarry’s transport vehicle. The field trial determined that the nine-axle vehicle would not be able to make a turn from eastbound SR 116 to northbound Mirabel Road in the regular counterclockwise direction around the roundabout. The right hand turn from southbound Mirabel Road to westbound SR 116 can be completed with use of the truck apron and encroachment onto the splitter islands, but without encroaching into opposing traffic lanes. Based on the results of the trial, several minor adjustments were made to the geometric design so that the nine-axle vehicle would be able travel from eastbound SR 116 to northbound Mirabel by completing a wrong way movement (a left turn at the intersection opposite the regular direction of travel) and crossing over the splitter islands on the west and north legs of the roundabout. Adjustments were also made so the southbound right-hand turning movement could also be completed.

The adjustments included:

- The west and north splitter islands were made mountable (with a 4-inch curb instead of a 6-inch curb) and free of any obstructions, such as guide signs near the roundabout so that the transport vehicle could drive over them.
- The southbound entry width to the roundabout from the north leg was increased by approximately 2 feet.
- The width of the truck apron was increased by 2 feet to 9.5 feet (and has since been increased to 12 feet - please see Master Response 5).
As described in the Draft Initial Study, completing the wrong-way movement would require temporary closure of the intersection and traffic control to prevent other vehicles from entering the intersection during the time the wrong way turn is being completed.

Several people submitted comments stating that an intersection closure of anywhere from five to 10 minutes or 15 to 20 minutes would be required to complete the wrong way movement, requiring re-routing of emergency vehicles during that time, and that the resulting impact to emergency response has not been disclosed. This response addresses those comments.

Comments made regarding the length of closure appear to be based on the need for the driver of the transport vehicle to get out and raise up the bed of the vehicle trailer high enough to clear the 4-inch splitter island, then drive through the intersection, and then get out to lower the bed once the splitter islands have been cleared by the vehicle. The assumption made in the comments is that the entire intersection would be blocked during the time this is occurring, not allowing for passage of emergency vehicles responding from the Forestville Fire Station to a call. In fact, the transport vehicle approaching the roundabout from the west should pull over onto the proposed 8-foot shoulder prior to entering within the west leg splitter island in order to raise the truck bed. This would allow for other eastbound traffic (and all other legs/directions) to continue through the roundabout. Before resuming to make the wrong-way turn, flagging would begin for all legs of the intersection. Following the wrong way turn movement, the transport vehicle could pull over on Mirabel Road beyond the splitter island of the north leg in order to get out and lower the truck bed. There is adequate pavement width to do this without blocking northbound traffic. The intersection will be partially blocked during the time needed to complete the turning movement through the intersection. For only a portion of this time would it be fully blocked to the extent that an emergency vehicle en route from the Fire Station could not get through the roundabout. Figure K-1 shows the approximate position of the transport vehicle when the intersection will be blocked for emergency vehicles. The distance the vehicle will travel from the beginning of the blockage to clearing the intersection is approximately 165 feet. At a rate of 5 mph, it will take approximately 23 seconds to clear the intersection. The anticipated delay during this infrequent wrong way movement is less than significant.
Figure K-1. Left Turn (Wrong-Way) Movement of the 9-Axle Quarry Transport Vehicle. Approximate position of the transport vehicle when the intersection will be blocked for emergency vehicles is shown in blue.
Master Response 2 - Accident Data for the Existing Intersection

Several people submitted comments about accident data for the existing intersection. The comments made various statements regarding the low number of overall or fatal accidents at the intersection based on recent data, or commented on a general lack of accidents based on anecdotal experience. Some comments suggested that more current recent data should be included in the environmental document, and that accident data does not support the need for the project. This response addresses those comments.

Accident data is one of several factors considered in determining the need for the project. Please see Section 1.2 of the Initial Study for a discussion of other factors contributing to project need.

Caltrans typically provides analysis of accident data for a three-year period. The Draft Initial Study analyzed accident data for the three-year period from January 1, 2005 through December 31, 2007 for a segment of SR116 from approximately 1000 feet west to 500 feet east of the intersection. The overall accident rate on SR 116 for this time period was 3.04 accidents per million vehicle miles, greater than the statewide average for similar facilities of 1.34. During this period, there were 13 accidents on this segment of SR 116, seven of which were at the SR116/Mirabel Road intersection. All seven were broadside collisions, with the southbound Mirabel Road motorists failing to yield. Two of the seven were injury accidents.

Section 1.2 of the Initial Study has been revised to include more recent accident data consistent with the Draft Project Study Report/Project Report and in response to comments received on the Draft Initial Study. During the three-year period from April 1, 2008 to March 31, 2011, the overall accident rate on the same segment of SR 116 as analyzed previously was 0.74 accidents per million vehicle miles, less than the statewide average of 1.19 for similar facilities. There were three accidents on this segment, all of which were non-injury accidents. Two were at the intersection, both involving vehicles waiting to make a left turn onto Mirabel Road from SR116. One was a broadside collision, and one was a rear-end collision.

Overall, a total of nine accidents (including two injury accidents) occurred at the intersection during the six years of accident data that was analyzed. No fatalities occurred in this period. Though the most recent three year period showed fewer accidents compared to prior years and accident rates below the statewide average, the overall accident data and the prevalence of broadside accidents show the potential for accidents at this location.

Please see “Environmental Consequences” in Section 2.1.7.1 for a discussion of how the project should decrease the potential for accidents.

Master Response 3 - Stop Signs and/or Left Turn Lane on SR 116

Several people commented that they would prefer stop signs alone or in combination with a left turn lane on eastbound SR 116 to northbound Mirabel Road instead of a roundabout.

Some comments appear to state that a stop sign is the only needed improvement, while others state that a stop sign should be constructed in combination with sight distance improvements west of the intersection by lowering SR 116. Installing stops signs on SR 116 at the intersection without constructing sight distance improvements would not meet safety standards and would
create the potential for accidents. Vehicles approaching the intersection from the west would not be able to see vehicles stopped at the stop sign with adequate distance to stop.

If the intersection were changed to an all-way stop by adding stop signs on SR 116 in combination with lowering of the roadway to improve sight distance, this would be expected to reduce current peak hour delay for the southbound Mirabel to eastbound SR 116 movement. However, in the design year of 2035, the intersection would operate with an unacceptable LOS F and would have an average delay per vehicle of over 10 minutes during the a.m. and p.m. peak hours. Therefore, it would not meet a portion of the project’s purpose to accommodate traffic from future regional growth and approved development, as identified in Section 1.2 of the Initial Study. While adding a left turn lane on SR 116 in addition to stop signs would add vehicle storage, it would not be expected to reduce 10 minutes of delay to an acceptable level.

Master Response 4 - Effect of the Roundabout on Emergency Response Time

Multiple people submitted comments raising concerns about the effects of the roundabout on emergency response times once the roundabout is open to traffic. Please note that this response addresses comments and clarifies and amplifies the discussion in the Initial Study regarding response times during regular operations of the intersection. Please see Master Response 1 regarding the effects on emergency response time during the time that oversize vehicles (specifically low bed trucks transporting quarry equipment) travel through the roundabout under specially-permitted conditions. Please see Master Response 5 regarding appropriate sizing of the roundabout to accommodate turning movements for trucks, including fire trucks.

The comments included:
- Statements of general concern about emergency response times.
- Concerns that area between the splitter islands and the curb is too narrow and will impede emergency vehicles if another vehicle tries to pull off to the side, as stated in a letter September 27, 2012 letter from the previous Forestville Fire Protection District Fire Chief.
- Questions whether the analysis considered response times during peak hours.
- Concerns about confused motorists within the roundabout blocking emergency vehicles.
- Disagreement with the Initial Study’s determination that the impact is less than significant.
- Inadequacy of the public education avoidance and minimization measure.

The project would improve traffic flow and reduce delay at the intersection for the southbound Mirabel approach compared to the existing conditions (see Table 7 of the Initial Study). This would be a benefit of the project to emergency response. This approach is considered the most critical movement for emergency vehicles, because it is the approach traveled by outbound emergency vehicles from the Forestville fire station responding to an emergency call.

In response to the “Notice of Public Project Review” of September 2010, the chief of the Forestville Fire Protection District raised concerns that when emergency vehicles respond from the fire station, other vehicles between the splitter island and curb on the Mirabel Road approach to the roundabout would pull over as required by law and block the “proposed 12-ft roadway between the curb and the splitter median,” and suggested that emergency vehicles
would have to go through the roundabout without lights and sirens, causing delays in emergency response.

According to LOS analysis for the project, in the 2035 peak hour scenario (which represents worst-case conditions in terms of delay), the average delay per vehicle for the southbound Mirabel approach during regular operations is 11.5 seconds (Caltrans, 2011), and that would be the expected delay if an emergency vehicle were to approach without lights and sirens on. When an emergency vehicle approaches with sirens on, vehicles on other legs of the roundabout would pull over as required by law for any type of intersection, leaving the roundabout clear and expediting passage of the emergency vehicle and those vehicles in front of it. When an emergency vehicle is approaching on the same leg of the roundabout, it would be clear to drivers within the splitter that if an emergency vehicle is behind them with insufficient room to pass, they need to proceed into and through the roundabout to allow the emergency vehicle to pass, and it is reasonable to expect them to do so with only brief hesitation. (Please see footnote below for an expanded description of how drivers should respond when an emergency vehicle approaches a roundabout.10)

Furthermore, the narrowest width between the outside curb and the splitter island for the Mirabel approach is 16 feet, not 12 feet. In addition, the splitter island on this leg is designed to be traversable (see “Oversize Vehicles’ discussion in Section 2.1.7.1). In the event that a driver ahead of an emergency vehicle does stop within the splitter island, an emergency vehicle would be able to use the available pavement width (and traversable splitter island as necessary) to bypass the vehicle.

The circulating roadway within the roundabout in combination with the truck apron also provides adequate space so that a fire truck could bypass a vehicle which has improperly pulled over within the roundabout.

Even accounting for confused or uneducated drivers, the effect on emergency response time would be less than significant without mitigation.

The public education campaign avoidance and minimization measure (which is not a mitigation measure) is intended to reduce the already less-than-significant impact identified in the Draft Initial Study. While it is acknowledged that such a campaign would not reach out-of-area drivers, this does not change the conclusions in the Initial Study, as the measure is not necessary to reduce a significant impact to a level that is less than significant.

---

10 When an emergency vehicle approaches a typical intersection, a driver normally gets out of the intersection as quickly as possible. The driver then pulls to the right side of the road and stops until the emergency vehicle has passed. The procedure is the same in a roundabout. If you are in the circle when an emergency vehicle approaches the roundabout with lights or sirens on:

- Do not stop inside the roundabout.
- Continue to your exit.
- When you are outside the roundabout, pull over to the right side of the road and stop.
- If you are not yet in the roundabout and there is enough space for the emergency vehicle to go by your vehicle, pull over and stop before you enter the roundabout. If you determine that there is not enough space, enter the roundabout, and exit the roundabout. Then pull over to the right and stop.

(New York State Department of Motor Vehicles, http://www.dmv.ny.gov/olderDriver/od_roundabout.htm)
**Master Response 5 - Sizing of the Roundabout for Trucks**

Multiple people submitted comments questioning whether the roundabout is appropriately sized to safely and efficiently handle truck traffic that is expected to use the roundabout regularly, including quarry trucks, fire trucks, and other types of trailer trucks. Please note that this response pertains to trucks which are currently legally allowed to travel on SR 116 without special permits. Please see Master Response 1 regarding the passage of oversize vehicles (specifically low bed trucks transporting quarry equipment) through the roundabout. Please see Master Response 4 for a discussion of the impact of the roundabout on emergency response times.

The comments regarding roundabout size included:

- The roundabout inscribed circle diameter of 130 ft and 9.5-ft wide truck feet is too small for the California Legal Truck and trucks are likely to hit curbs, based on modeling performed with Autoturn (a turning movement modeling program).
- The roundabout is smaller than other roundabouts in the region.
- Delivery trucks (such as Safeway trucks) do not bend in the middle and will back up traffic trying to navigate the circle.
- Could the center circle be smaller and the 20-ft traffic lane and 9.5-ft truck apron be expanded to accommodate trucks?
- Trucks will have to travel through the roundabout at 5-10 mph, causing traffic to back up.
- The roundabout needs to be larger to accommodate trailer trucks and fire trucks.

The roundabout is designed to accommodate truck turning through use of the truck apron surrounding the roundabout center island. The appropriate size for the roundabout is determined by the legal design vehicle, which is based upon SR 116’s truck network designation. SR 116 in Forestville is designated as a California Legal Advisory Route, and therefore the roundabout has been sized to accommodate turning movements for the California Legal truck 65-ft long design vehicle (see Figure K-2 for a visual depiction of the California Legal truck).

The Draft Initial Study evaluated a roundabout with a 130-ft inscribed circle diameter, 68-foot center circle, 9.5-foot truck apron, and travel way/shoulder width of 22 ft. Truck turning movement modeling found these movements to be adequate, with trucks making full use of the pavement width and truck apron to accomplish the moves at 15mph. Based on comments received, the design team re-modeled the truck turning movements and determined it is feasible and beneficial to increase the truck apron width from 9.5 ft to 12 ft (this would be accomplished by reducing the center circle diameter from 68 feet to 63 feet). Truck turning movements have been modeled with a 12-ft truck apron for the California Legal truck, as well as for a bottom dump truck with trailer and for a ladder fire truck. The Truck Turns exhibits below (Figures K-2 through K-4) that truck turning movements can be completed acceptably at the posted advisory speed of 15 mph without an increase in the overall roundabout diameter or in travelling width. It is not desirable to increase the travelling width because motorists will start to perceive the roundabout as a dual lane roundabout rather than a single lane roundabout.

The roundabout is neither too large nor too small for its particular location and truck route designation. Trucks would be able to travel through the roundabout at the modeled speed, and
the roundabout would operate at an acceptable Level of Service as described in Section 2.1.7.1 of the Initial Study.
Figure K-2. Truck Turn Movements for the California Legal Design Vehicle
Figure K-3. Truck Turn Movements for the Dump Truck with Trailer
Figure K-4. Truck Turn Movements for the Ladder Fire Truck
Master Response 6 - Project Funding and Prioritization of the Project

Several comments stated opinions that other locations in the County have a greater need for improvements or that project funds could be put to better use on projects elsewhere in the county. While it is not within the scope of this CEQA review to comment on the need for other specific projects, this response provides background information on the funding sources and prioritization of the proposed project. Please see also Section 1.2, “Purpose and Need” of the Initial Study.

This project is important regionally. Being on a State highway, it requires oversight from Caltrans. The Technical Advisory Committee of the Sonoma County Transportation Authority set this project as the third highest priority for projects on the State highway system. This committee is comprised of representatives from the nine cities within the county as well as County staff. The two projects with higher priorities were on Highway 101. The previous County Supervisor for this district also considered this project a higher priority than other local intersections.

As stated in Section 1.5 of the Initial Study, the project is funded by a combination of sources, including Measure M Funds, Countywide traffic mitigation fees, quarry expansion mitigation fees (fair share contributions), and Proposition 1B funds. (Note: The source of Proposition 1B funds is no longer the State Local Partnership Program Account, as was described in the Initial Study, but another Proposition 1B program-Local Street and Road, Congestion Relief, and Traffic Safety Account of 2006. This text has been corrected in the Initial Study).

Some of these funding sources are limited to use on particular projects or particular types of projects, as described below, and may not be available to some projects elsewhere in the county.

A portion of the project is funded by Measure M Local Street Projects (LSP) program, which are dedicated towards the specific programs and projects specified in the Measure M Expenditure Plan, such as the proposed project. For additional information on Measure M, see page 7 of the Initial Study.

A portion of the project is funded by quarry expansion mitigation fees (also known as “fair share contributions”) required as mitigation measures in the Canyon Rock Quarry Expansion and Blue Rock Quarry Expansion environmental impact reports and conditions of approval. These fair share contributions were specifically required to mitigate impacts to the SR 116/Mirabel Road intersection, and may not be used at other locations.

Countywide traffic mitigation fees are established to implement the goals and objectives of the general plan and mitigate the traffic impacts caused by new development in Sonoma County. Countywide traffic mitigation fees can be used on projects that provide increased traffic capacity or insure a safe and efficient level of service.

Proposition 1B- Local Street and Road, Congestion Relief, and Traffic Safety Account of 2006 funds “shall be used for improvements to transportation facilities that will assist in reducing local traffic congestion and further deterioration, improving traffic flows, or increasing traffic safety that may include, but not be limited to, street and highway pavement maintenance, rehabilitation, installation, construction and reconstruction of necessary associated facilities such as drainage and traffic control devices, or the maintenance, rehabilitation, installation,
construction and reconstruction of facilities that expand rider ship on transit systems, safety projects to reduce fatalities, or as a local match to obtain state or federal transportation funds for similar purposes.” (Government Code Section 8879.23(l)(4)).
Section 2. Comments and Responses

A. State, Regional and Local Agencies

Comment A1. State Clearinghouse

February 20, 2013

Valerie Shearer
California Department of Transportation, District 4
Mail Station 8-H
PO Box 22660
Oakland, CA 94623-0660

Subject: State Route 116 at Mirabel Road Intersection Improvement Project
SCH#: 2013012049

Dear Valerie Shearer:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on February 19, 2013, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1600 TENTH STREET P.O. BOX 3644 SACRAMENTO, CALIFORNIA  95812-3644
TEL (916) 445-0613  FAX (916) 323-3018  www.spz.ca.gov

**Document Details Report**

**State Clearinghouse Data Base**

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<td>Caltrans #4</td>
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<td>Type</td>
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<td>Description</td>
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**Lead Agency Contact**

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<tr>
<th>Name</th>
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<tr>
<td>Agency</td>
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**Project Location**

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**Proximity to:**

- **Highways:** Hwy 116
- **Airports:**
- **Railways:**
- **Waterways:** Green Valley Creek
- **Schools:** Forestville, El Molin
- **Land Use:** Limited Commercial, Urban Residential, Rural Residential

**Project Issues**

- Aesthetic/Visual; Agricultural Land; Recreation/Parks; Archaeologic-Historic; Biological Resources; Geologic/Seismic; Noise; Public Servic.es; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects; Other Issues

**Reviewing Agencies**

- Resources Agency; Department of Conservation; Department of Fish and Wildlife, Region 3; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Air Resources Board; Transportation Projects; Regional Water Quality Control Board, Region 1; Department of Toxic Substances Control; Native American Heritage Commission; Public Utilities Commission

| Date Received | 01/18/2013         | Start of Review | 01/18/2013 | End of Review | 02/19/2013 |

**State Route 116 at Mirabel Road Intersection Improvement Project**

**K-18**
Response to Comment A1.

A1-1 The State Clearinghouse's receipt and distribution of the document is acknowledged.
February 4, 2013

Valerie Shearer@dot.ca.gov
Valerie Shearer, Senior Environmental Planner
California Department of Transportation, District 4
Office of Environmental Analysis, MSB-B
P. O. Box 23060
Oakland, CA 94623-0660

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION, SONOMA COUNTY

Dear Ms. Shearer:

The California Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Initial Study Mitigated Negative Declaration (IS/MND) for the referenced project. The Division monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs.

The project is the replacement of the existing intersection of State Route 116 (SR 116) and Mirabel Road in Forestville with a roundabout. The project is located from west of Hidden Lake Road to east of Mirabel Road. The project also includes lowering SR 116 west of Mirabel Road to improve sight distance for vehicles. The IS/MND has determined that the project will have no impacts on agricultural resources. The project site does not appear to be under a Williamson Act contract, nor does it involve the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. As such, the Department has no comment on this project.

Thank you for the opportunity to comment on this CUP. If you have questions on our comments, or require technical assistance or information on agricultural land conservation, please contact Jacqueelyn Ramsey, Associate Environmental Planner, at 801 K Street, MS 16-01, Sacramento, California 95814; or, phone (916) 323-2379.

Sincerely,

Molly A. Penberth, Manager
Division of Land Resource Protection
Conservation Program Support Unit

The Department of Conservation’s mission is to balance today’s needs with tomorrow’s challenges and foster intelligent, sustainable, and efficient use of California’s energy, land, and mineral resources.
Response to Comment A2.

A2-1 The Initial Study incorrectly stated in the summary that there would be no impacts to Unique Farmlands. The Initial Study correctly stated in the text on page 26 that the project would directly convert direct 1.06 acres and indirectly convert 0.30 acres of Unique Farmland. The Department of Conservation was notified of the error and provided an opportunity to amend their comment. See Comment Letter A3. The summary in the Initial Study has been corrected.
February 15, 2013

Valerie Shearer, Senior Environmental Planner
California Department of Transportation, District 4
Office of Environmental Analysis, MS8-B
P. O. Box 23660
Oakland, CA 94623-0660

Dear Ms. Shearer:

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION, SONOMA COUNTY

Sonoma County (County) staff, Laura Peltz, telephoned the Department of Conservation on February 13, 2013 to report that the project description on page 20 of the Initial Study Mitigated Negative Declaration (IS/MND) states the project would not involve Unique Farmland. After reevaluation, County staff determined that the project will convert a 1.36-acre portion of a parcel (APN 084-031-072) containing Unique Farmland to nonagricultural use. The Department has reviewed the additional information provided by Sonoma County staff, and finds that no additional comment on this project is required, since the impact of the conversion, noted above, appears to be less than significant in comparison to the thresholds stipulated under CEQA Guidelines.

Thank you for the opportunity to provide comment with regard to County’s finding that project will impact Unique Farmland. If you have any additional questions, or require technical assistance or information on agricultural land conservation, please contact Jacquelyn Ramsey, Associate Environmental Planner, at 801 K Street, MS 18-01, Sacramento, California 95814; or, phone (916) 323-2379.

Sincerely,

Molly A. Penberth, Manager
Division of Land Resource Protection
Conservation Program Support Unit

cc: Laura Peltz, Environmental Specialist
Sonoma County Permit and Resource Management Department

The Department of Conservation’s mission is to balance today’s needs with tomorrow’s challenges and foster intelligent, sustainable, and efficient use of California’s energy, land, and mineral resources.
Response to Comment A3.

A3-1 The Department of Conservation’s comments are acknowledged.
February 15, 2013
(mail and emailed)

Valerie Shearer, Branch Chief
California Department of Transportation, District 4
Office of Environmental Analysis, MS 8B
P.O. Box 23660
Oakland, Ca 94623-0660

Re: State Route 116/Mirabel Road Intersection Improvement Project Initial
Study with Proposed Mitigated Negative Declaration (December 2012)

Dear Ms. Shearer:

Thank you for the opportunity to review and comment on the State Route
116/Mirabel Road Intersection Improvement Project (December 2012).

Appendix B: Project Plans, Cross Sections, and Profiles (Sheets 1 and 2)
Page 7 identifies a Class I bike path to the Forestville Youth Park. This is
consistent with the current County plans to construct an 8 feet wide Class I bike
path for two way bicycle and pedestrian traffic on the east side of Mirabel Road.
The Class I bike path would parallel the proposed Class II bike lanes on the east
and west side of Mirabel Road.

However, the drawing on Sheet 1 and cross section C-C only shows a 6 feet
wide minimum sidewalk on the east side of Mirabel Road. The sidewalk needs
to be increased to 8 feet to serve as the Class I bike path. The existing sidewalk
to the Forestville Youth Park is heavily used by local children. The Class I bike
path will be separated from the roadway and will provide a safer route for
children as well as pedestrians and inexperienced bicyclists traveling to the
park.

Pages 56, 58 Drainage
We understand that the project drainage will be further investigated during the
design phase. We request that the drainage investigation includes the existing
30” storm drain pipe and swale paralleling the West County Trail. During heavy
rains, the 30” storm drain pipe carries a large volume of rain water from
Highway 116 which is discharged into the shallow swale. The swale will
overflow and scour the trail shoulder creating more sedimentation downstream.
We request Caltrans to coordinate with the Regional Parks Department and
Transportation and Public Works Department to address this problem.
Page 84 Tree Planting Mitigation
The Regional Parks Department is interested in working with the County Transportation and Public Works Department on selecting planting locations that could include Sunset Beach Regional Park parking area, future West County Trail extension, or other Regional Parks facility in the region. Please coordinate this work with Regional Parks staff. Please note that tree planting on the future trail extension cannot occur until the Regional Parks Department finalizes the trail layout design and acquires a public easement from the private land owner.

It is our understanding that the planted trees would be maintained for a period of three years by Caltrans or County Transportation and Public Works Department.

If you have any questions, please call me at 707-565-3348.

Sincerely,

Kenneth Tam
Park Planner II

c: Caryl Hart, Director Sonoma County Regional Parks Department
Tom O’Kane, Sonoma County Transportation and Public Works
Steven Schmitz, Sonoma County Transi, SCBPAC, CBPAC
Laura Peitz, Sonoma County Permit and Resource Management Depart.
Response to Comment A4.

A4-1  This segment of the West County Trail is shown as a Class I bicycle trail. However, Class I trails do not normally pass through urbanized areas and conflict with large numbers of driveways. At the location of the Rotten Robbie driveway, there will be a much heavier volume of cross traffic than normally expected on a Class I facility. For the safety of pedestrians and bicyclists, it may be desirable to have this short segment function as a normal sidewalk. Bicyclists especially are able to move at speeds that make it difficult for vehicles entering and exiting this driveway to see. Establishing this short segment as a Class I trail may cause users to disregard the dangers of the heavy cross traffic.

A4-2  The analysis performed in the SR 116/Mirabel Road Drainage Report (WRECO, 2013) notes no significant increase in contributing area and also notes no change in natural drainage divides. On page 4 of the report it states that the increased runoff will be insignificant compared to the overall watershed of the receiving water bodies of the Project. The Project does not require upsizing the existing 30” culvert due to capacity.

A4-3  Comment noted. The County DPTW acknowledges that tree planting along the West County Trail extension cannot occur until the trail alignment design is finalized and an easement obtained. At this time, areas within the project limits and areas identified in cooperation with Regional Parks staff at Sunset Beach Regional Park will provide sufficient space for the mitigation requirement of this project. The County DTPW will continue to coordinate with Regional Parks on the selection and location of trees to be planted.

A4-4  The County DTPW will be responsible for maintaining all trees planted as mitigation for the project for a period of three years, including those planted at locations owned or operated by Sonoma County Regional Parks.
B. Written Comments from Individuals and Organizations

Comment B1. Bertero, Jackie

COMMENT FORM
State Route 116 at Mirabel Road Intersection Improvement Project
Initial Study with Proposed Mitigated Negative Declaration
Public Meeting, February 6, 2013

Name: Jackie Bertero
Address: [Redacted]
City: Forestville
Email: [Redacted]

Organization:
City: 95436
Zip:

Comments:
My neighbors and I in the Hidden Lake Rd area would like to have a safe way to walk to town from Hidden Lake Rd. Currently we are forced to cross Hwy 116 and walk across a private yard to get to town. Or we can walk along Hwy 116 and risk being side swiped by a vehicle. Is there anything that can be done about that. There are several children in our neighborhood that would like to walk to school, but are unable to because it is not safe.

Thank you,

Jackie Bertero

Return comments by 5:00 PM, February 19, 2013 to:
Caltrans, District 4, Office of Environmental Analysis, MS 88
Attn: Valerie Shearer, Sr. Environmental Planner
P.O. Box 23660
Oakland, CA 94623

Email: Valerie_Shearer@dot.ca.gov
Response to Comment B1

B1-1 A dedicated pedestrian facility (sidewalk) along the full length of SR 116 between Hidden Lake Road and Mirabel Road in not within the scope of the project, and this location is not designated for future pedestrian improvements in the Sonoma County Bicycle and Pedestrian Plan.

Please note that the project would be an improvement compared to the existing conditions for pedestrians between Hidden Lake Road and Mirabel Road. The project would construct an 8-foot wide shoulder along the south side of SR 116 from Hidden Lake Road to approximately 300 feet east. Currently, shoulder widths range from 0-3 feet. The shoulder would connect to a sidewalk on the south side of SR 116 approaching the roundabout. The sidewalk would lead to designated crosswalks at the SR 116/Mirabel Road intersection. A 10-ft shoulder is proposed on the north side of SR 116.

In addition, the project would improve stopping sight distance along SR 116 and to and from Hidden Lake Road, making pedestrians more visible to vehicles and improving pedestrians’ ability to see approaching vehicles.
Comment B2. Bordessa, Allison

Dear Ms. Shearer:

Please deny the proposed roundabout at Mirable Rd and Hwy 116 In Forestville.

Currently a petition, signed by over 200 Forestville residents is in circulation; this petition requests 5th District Supervisor Efren Carrillo NOT to fund this project. Only a small, select group of individuals is in favor of a roundabout at this location.

If this roundabout is built, during certain times of the year, emergency vehicles would have to be re-routed past our High School in order to reach an area of town that is only a few hundred feet from the Fire Station.

A 7.5 million dollar roundabout in Forestville is a waste of public funds and an unwarranted project. That intersection has had 4 minor accidents in the past 10 years and overall traffic moves smoothly and safely through that area. A roundabout would only complicate an uncomplicated country intersection.

Also please note that growth projections for West Sonoma County are inaccurate. There is a two acre building minimum in West Sonoma County that runs from Forestville, to the Pacific Ocean so it is very very unlikely that even future growth would warrant such a structure. At the most that intersection could use a turn lane and a stop sign.

Thank you in advance for your denial of this roundabout.
Allison Bordessa
lifetime resident of Forestville, CA
(707)887-8269
Response to Comment B2.

B2-1  Comment noted.

B2-2  Please see Master Response 1 regarding passage of emergency vehicles during the
time low bed trucks are using the SR 116/Mirabel Road intersection.

B2-3  Please see Master Response 2 regarding accident data at the existing SR 116/Mirabel
Road intersection.  Please see Section 1.2 of the Initial Study for a discussion of the
factors that contribute to the need for the project.

B2-4  Because the Initial Study references or relies on various growth rates in its analysis, it is
not clear which growth rate the commenter is referencing.

Population growth rate projections for the Russian River Planning Area referenced in
Section 2.1.2 of the Initial Study were obtained from the current Sonoma County General
Plan.  The population growth rate projections contained in the General Plan serve as a
basis for general plan policies that guide and balance future growth and development in
the county.  The growth rates are included in the Initial Study to inform the reader about
expected general growth in the area consistent with the General Plan, the adopted local
planning document for the project area.  The commenter references allowable building
densities in the West County as a limiting factor to growth, and appears to state that the
growth rate projection does not take this into account.  Zoning and building densities are
implemented in accordance with General Plan policies, and therefore take into account
the stated population growth rate projection.

Caltrans Traffic Forecasting Division provided the traffic volume forecasts used in the
2035 roundabout Level of Service analysis presented in this Initial Study using the
Sonoma County Transportation Authority’s Sonoma County Travel Model.  The LOS
analysis for the project indicates the intersection in its existing configuration will operate
unacceptably in the year 2035, as described in Section 1.2 and Section 2.1.7.1 of the
Initial Study.  Please see Master Response 3 for discussion of the feasibility of left turn
lane and stop sign on 116.

Growth rates described in Section 2.4, Cumulative Impacts, which were used in the
noise analysis, were based upon rates used in the signal warrant analysis prepared for
the County by Crane Transportation Group (2006).  Though these rates reflect higher
levels of growth in traffic volumes than the LOS analysis, use of a higher volume
overestimates noise impacts.  Use of a lower growth rate for noise analysis would not
result in any new or more severe impacts than those identified in the Initial Study, and
the existing analysis is considered adequate.
Comment B3. Brown, Ken, 2-6-13

STATE ROUTE 116 AT MIRABEL ROAD INTERSECTION IMPROVEMENT PROJECT
INITIAL STUDY WITH PROPOSED MITIGATED NEGATIVE DECLARATION
PUBLIC MEETING, FEBRUARY 6, 2013

COMMENTS

Ken Brown

City: F o r e s t v i l l e  Zip: 9 5 4 7 6

Comments:

1. I'm concerned about safety during construction. There appears to be a stage where the traffic is redirected such that the sight lines from Hidden Lake Rd towards the West are very limited. Looking west from Hidden Lake Rd, there is a closeby curve that prohibits seeing very far down the hill. This means a person turning from Hidden Lake Rd can't see oncoming uphill traffic until the traffic is so close that it makes it dangerous to turn either way onto Hwy 116.

2. I'm also concerned about emergency vehicle access in a timely manner to residences on Hidden Lake Rd and further west.

Return comments by 5:00 PM, February 15, 2013 to:

Caltrans, District 4, Office of Environmental Analysis, MS 88
Attn: Valerie Shearer, Sr. Environmental Planner
P.O. Box 23660
Oakland, CA 94623

Email: Valerie_Shearer@dot.ca.gov

Please use reverse side for more comments.
Response to Comment B3.

B3-1  The stopping sight distance is adequate on SR 116 to see drivers stopped and making a turn movement from Hidden Lake Road with the anticipated construction speed posting of 25 mph. Please see Figures K-5 through K-7, Hidden Lake Road Corner Sight Distance, below.

B3-2  The staging of construction will allow continuous access to be maintained from Mirabel Road and SR 116 to Hidden Lake Road. Please see Figures K-8 through K-14 showing turning movements for fire trucks during the various stages of construction (note that stages in between those shown in the figures utilize the same traffic routing). Before initiating construction, a Transportation Management Plan (TMP) will be prepared and provided to all emergency service providers in the area. The TMP will be developed with input (regarding detours, truck routes, notifications, etc.) from emergency services providers, the Forestville Fire Protection District, and others. The TMP will serve to notify all emergency service providers in the project area of the project construction schedule and the time and location of lane closures. The TMP will identify anticipated dates and hours of construction, as well as anticipated limits on access. Notice will be provided at least one week before construction begins.

Please see Master Response 4 regarding emergency response times once the roundabout is open to traffic.
State Route 116 at Mirabel Road Intersection Improvement Project

Figure K-5. Hidden Lake Road Corner Sight Distance- Construction Stage 4B.
Figure K-6. Hidden Lake Road Corner Sight Distance- Construction Stage 5-9.
Figure K-7. Hidden Lake Road Corner Sight Distance - Profile.
Figure K-8. Fire Truck Movements During Construction- Stage 1
Figure K-9. Fire Truck Movements During Construction- Stage 3
Figure K-10. Fire Truck Movements During Construction- Stage 4A
Figure K-11. Fire Truck Movements During Construction- Stage 4B
Figure K-12. Fire Truck Movements During Construction- Stage 10
Figure K-13. Fire Truck Movements During Construction- Stage 11A
Figure K-14. Fire Truck Movements During Construction- Stage 11B
Comment B4. Brown, Ken, 2-12-13

Valerie Shearer #Dist. 4
Caltrans
M588
PO Box 23660
Oakland, CA 94623-0660

Dear Ms. Shearer

I am very concerned about the inadequacy of the Initial Environmental Impact Report for the proposed traffic circle at the intersection of Mirabel Rd and Hwy 116 in Forestville. I live on Hidden Lake Rd, about 1,000 feet away from the Hwy 116 and Mirabel Rd intersection. Hidden Lake Rd is heavily impacted from this proposed project.

1. I am concerned about the safety of the Hidden Lake Rd and Hwy 116 intersection during construction. The sightline from the stop sign on Hidden Lake Rd towards the west, downhill on Hwy 116 is very critical for safety. Cars coming up (eastward) on Hwy 116 often speed. Though the speed limit on eastbound Hwy is 40 mph, cars often go 50 mph or faster. To safely turn eastward from Hidden Lake Rd, a driver has to see quite a ways downhill towards the west so that the oncoming vehicles will not collide with the turning vehicle.

During construction, as indicated on the Stage 5 Construction plan (see attachment), Hwy 116 is slightly detoured to the south. There is a jog on Hwy 116 just west of the Hidden Lake Rd intersection. The stop line on Hidden Lake Rd is moved further south than its present (and future upon completion) location. By combining this jog and the move back of the stop line, the sight line from Hidden Lake Rd is severely shortened. This results in not allowing motorists on Hidden Lake Rd to see oncoming vehicles until they are almost at the intersection. Since it takes some time for a turning vehicle from Hidden Lake Rd to accelerate up to speed on Hwy 116, IT IS ALMOST CERTAIN THAT MANY VEHICLES GOING EASTBOUND ON HWY 116 WILL HAVE TO SUDDENLY SLOW DOWN WITHOUT ANY WARNING. This is a recipe for disaster! Somebody could get killed! Please note the recent court decision concerning the accident of a vehicle turning from Hwy 116 at an unsafe intersection in Cotati. There must be a design for the detour that provides adequate sight lines. The current design is very lacking on this matter.

2. How will the construction process impact the timeliness of emergency vehicles headed westbound through the construction zone? The report indicates that the final configuration of the project has such narrow lanes (see highlighted comments on pg. 33, attached) approaching the traffic circle that there is nowhere for cars to move out of the way of emergency vehicles going southbound on Mirabel Rd. This appears to be a great shortcoming in safety. Relying on brochures and public meetings isn’t adequate because their scope of distribution is very limited and many drivers going through that intersection are from out of town. This is a serious public safety issue and the proposed mitigation is very weak.

Now concerning access to the TWO busiest businesses in town, the Post Office and Rotten Robbie gas station.

3. Will vehicles headed northbound on Mirabel Rd be able to turn into Westside Center? If not, how are we supposed to
Comment B4. Brown, Ken, P. 2

get into the center where the post office is located? To turn left from northbound Mirabel to the post office, the turning vehicles must yield to oncoming traffic (southbound on Mirabel). As it is presently, there is a left turn lane at the Westside Center driveway. If there is no left hand turn lane there after the traffic circle is built, the turning vehicles will have to stop and wait in the one single northbound lane. This will back up traffic, blocking the entrance to the gas station and often backing up traffic through the traffic circle and down westbound Hwy 116. Access to the post office is a must but there needs to be a wide enough northbound roadway to prevent backups behind turning cars. The issue of vehicles turning into the Westside Center is not discussed at all. The report is inadequate on this matter.

4. How will vehicles leaving the Rotten Robby gas station be able to proceed eastbound on Hwy 116? The report doesn't indicate whether vehicles will be allowed to make that turn. The report is inadequate on this matter.

I'd like to believe that these issues can be resolved but until they are, this project (and impact report) should not be approved. Let's make sure that this traffic circle makes things better and not worse than before. Increasing emergency response times, restricting access to busy business locations, and creating hazardous intersections (even temporarily) all make things worse than if no project was ever done this way.

Ken Brown

(See attached file: Line of Sight from Hidden Lake Rd down Hwy 116.pdf) (See attached file: Page concerning emergency vehicle access.pdf)
Comment B4. Brown, Ken, (Attachment 1, P. 1.)
Comment B4. Brown, Ken (Attachment 1, P. 2.)

Line of Sight from Hidden Lake Rd Stop Line westbound on Hwy 116
The No Build Alternative would not impact utilities.

**Avoidance, Minimization and/or Mitigation Measures**

Caltrans would coordinate relocation work with the affected utility companies to minimize disruption of services to customers in the area during construction.

### 2.1.6.2 Emergency Services

**Affected Environment**

Fire protection for the project area is provided by the Forestville Fire Protection District (FFPD). The FFPD also provides emergency medical response. The district has one station located at 6554 Mirabel Road. The Sonoma County Sheriff’s Department provides law enforcement services to unincorporated areas of the county, including the project area. The California Highway Patrol provides law enforcement along all state routes within California, including SR 116 within the project vicinity, and assists local governments during emergencies when requested.

**Environmental Consequences**

The roundabout has been appropriately sized to ensure safe passage of emergency service vehicles, including fire engines. It has been sized for the 65-foot long California Legal Design Vehicle. Fire engines (and other large vehicles) can cross onto the center truck apron of the roundabout when completing turns.

In order to control vehicle speeds and vehicle queuing approaching the roundabout, the roadway width between the sidewalk curb and the splitter island is limited. These limited widths may not allow room for an emergency vehicle to pass other vehicles queued to enter the roundabout, and could result in some increase to emergency response times. According to FHWA’s “Roundabouts: An Informational Guide,” drivers should be educated how to properly respond when an emergency vehicle is approaching the roundabout in order to minimize potential delays to emergency response (NCHRP, 2010). The guide includes following advice for drivers:

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Do not enter a roundabout when an emergency vehicle is approaching on another leg. This will allow traffic within the roundabout to clear in front of the emergency vehicle. When an emergency vehicle is approaching, be sure to proceed beyond the splitter island of your approach leg to ensure the emergency vehicle has adequate room to turn and exit the roundabout at any approach.
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A measure for driver education has been included below to minimize delays to emergency response.

**The project does not affect the availability of or need for emergency services.**

In general, two-way through traffic would be maintained on SR 116 and Mirabel Road during project construction to the maximum extent feasible. However, during some stages of construction, single lane closures with flagged traffic control would be required at times on
Response to Comment B4.

B4-1 Please see Response B3-1.

B4-2 Please see response B3-2.

B4-3 Please see Master Response 4 regarding emergency response times once the roundabout is open to traffic.

B4-4 Vehicles headed northbound on Mirabel Road will continue to be allowed to make a left turn into Westside Center when the roundabout is operational from the through lane. The project does not include a dedicated left turn lane on northbound Mirabel Road into the Westside Center. The year 2035 traffic operations analysis shows queuing during the peak period backs up 42 ft on Mirabel Road (Caltrans, 2011). Because there is over 150 feet of storage space available along the splitter island, queuing vehicles would not block the entrance to the shopping center. In addition, the curb to curb width in the northbound direction at the Westside Center driveway is 22 feet, which would allow a vehicle behind the left turning driver to bypass. Queues are not expected to form that would cause significant impacts to the Rotten Robbie driveway or the roundabout.

B4-5 Vehicles leaving the Rotten Robbie gas station will be allowed use the southern (SR116) driveway and make a left turn to head east on SR 116.
February 15, 2013

Caltrans District 4
Attention: Valerie Shearer, Senior Environmental Planner
Office of Environmental Analysis, MS8-B
P. O. Box 23660
Oakland, CA 94623-0660

SUBJECT: State Route 116 / Mirabel Road Intersection Improvement Project

Dear Ms. Shearer:

Our client, Canyon Rock Quarry, is very concerned about the traffic impacts at the intersection of Highway 116 and Mirabel Road and the potential impacts to their business. They acknowledge that the intersection in its present configuration will not be able to handle the projected future traffic, and have already paid traffic mitigation fees associated with alleviating the traffic condition in the future. However, they would like to be sure that their contribution is implemented in a manner that will work for their business and the community. At the request of our client, we have reviewed the Draft Environmental Document for the above-mentioned project and have the following comments.

1. With two quarries that serve much of Sonoma County located west of the project, this intersection experiences a higher percentage of truck traffic than a typical intersection. It is not clear that the analysis of the intersection accounted for the slower speeds of loaded trucks turning through the roundabout and the resulting delays at the intersection. With the present design, trucks will not be able to navigate the roundabout at the posted advisory speed of 15 mph.

2. The size of the roundabout does not appear to accommodate the truck traffic that this intersection experiences. We used Autocad to model trucks using the roundabout and found that the California Legal Truck Model had a difficult time navigating the intersection without hitting the curbs. The proposed design uses an inscribed circle diameter of 130’ with a central island diameter of 70’ and a 9.5’ truck apron around the island. As a comparison, we checked the dimensions for a single lane roundabout in Petaluma (Petaluma Blvd. S and Crystal Lane) and found the dimensions to be an inscribed diameter of 160’ with a central island diameter of 80’ and a 12.5’ truck apron around the island. We also checked the dimensions for a single lane roundabout in Hopland (SR 175 and Old River Road) and found the dimensions to be an inscribed diameter of 135’ with a central island diameter of 70’ and a 12’ truck apron around the
Comment B5. Carlile Macy, Representing Canyon Rock Quarry, P.2

Valerie Shearer, Senior Environmental Planner
Caltrans District 4
February 15, 2013
Page 2

island. Even with those dimensions, there were apparently still some issues with the trucks navigating the roundabout because they put another truck apron on the eastern curb return to provide for more clearance.

3. The Draft Environmental Document mentions that the intersection is currently shut down with traffic control when oversized vehicles turn at the intersection. We have been given a model that shows that an oversized vehicle approaching from the north and turning west will need to drive up and over the splitter island and that an oversized vehicle approaching from the west will actually need to drive over the splitter islands and drive the wrong direction in the roundabout to turn north. The intersection will need to be shut down for either of these maneuvers. Unfortunately, in order for a lowbed oversized truck to drive over the splitter island, the driver will need to get out and raise the bed, drive over the splitter island and then lower the bed after clearing the island. According to our client, the intersection will need to be closed for 15 – 20 minutes to complete this maneuver. It is unclear if that long a closure was anticipated in the environmental analysis. Canyon Rock estimates that it needs to bring the lowbed through that intersection two times a month, which will cause four separate closures. It is unknown how often the other quarry would need to bring a lowbed through the intersection.

4. It is stated that left hand turns into the gas station from east bound SR 116 will be prohibited during peak traffic periods, but the resulting impacts to other streets do not seem to be addressed in the document.

5. Although a construction staging plan is provided, it does not look like the intersection will be able to remain open to construct the roundabout and splitter islands.

6. The environmental document states that a signal was considered but eliminated from further discussion. One of the primary reasons for eliminating the signal seems to be widening that would occur west of Hidden Lake Road. The document states that “The signalized intersection would result in impacts to roadside ditches west of Hidden Lake Road – potential Waters of the State.” It is not clear why the installation of a signal would create the need to widen SR 116 west of Hidden Lake Road while constructing a roundabout will not create the same need. Is there a study that explains why the turn lane is not needed and the widening west of Hidden Lake Road will be less for the roundabout option?

7. Another listed reason for eliminating the signalized intersection is that the construction costs are higher for the signal. No backup is given to support this statement. It also appears that the roundabout costs (including right of way costs) will be very sensitive to design modifications that are made as construction documents are developed as compared to the cost of a signal, which can be estimated very accurately with little change as plans develop. Many of the costs for the project will be associated with lowering the highway to improve sight distance, so the cost
Comment B5. Carlile Macy, Representing Canyon Rock Quarry, P.3

Valerie Shearer, Senior Environmental Planner
Caltrans District 4
February 15, 2013
Page 3

comparison between a signal and the roundabout is less significant to this project than it would be to another location. Installation of a signal should not need as many construction stages as a roundabout, and more stages generally means more costs.

8. Because the trucks will need to slow down so much to navigate the roundabout, it is unclear that there would be a reduction in noise for the roundabout when compared to a signal.

Canyon Rock Quarry is not opposed to the installation of a roundabout at the intersection of Mirabel Road and SR 116. If a roundabout is the best solution for the intersection, then their trucks need to be able to use that intersection to deliver their products without creating problems for the rest of the community. It is not clear that they will be able to do that based on the information in the Draft Environmental Document.

Thank you for your consideration.

Very truly yours,

CARLILE-MACY

MARK R. HALE, PE

MRH:bc
Q:\199696074.000\N Drive 96074.009\General Correspondence\Environmental response 2013-02-14.docx
Response to Comment B5.

B5-1 Please see Master Response 5 regarding appropriate sizing of the roundabout for trucks, and the ability of trucks to navigate the roundabout at the posted advisory speed. The Caltrans Traffic Forecasting Division provided the traffic volume forecasts used in the 2035 roundabout Level of Service analysis presented in this Initial Study. The overall traffic numbers were based upon traffic counts and the Sonoma County Travel Demand Model, and the truck percentages were estimated based upon nearby truck counts, information about the nearby quarries, and judgment.

B5-2 Please see Master Response 5 regarding appropriate sizing of the roundabout for trucks.

B5-3 Please see Master Response 1 regarding passage of emergency vehicles during the time low bed trucks are using the SR 116/Mirabel Road intersection.

B5-4 Vehicles traveling eastbound on SR 116 that need to access the Rotten Robbie gas station during peak hours would be able to exit the roundabout heading north on Mirabel Road and use the Mirabel Road driveway. The Mirabel Road driveway is designed to accommodate the California legal design vehicle. The project would not generate significant impacts to other area streets.

B5-5 Based on current staging plans, the intersection would be able to remain open to construct the roundabout and splitter islands. No full closures or detours around the SR 116/Mirabel Road intersection would be required.

B5-6 Based on preliminary plans developed for the signal, the signalized intersection requires a separate 12ft wide left-turn lane on eastbound SR 116 at Mirabel Road including 325 ft of storage and a 90-ft bay taper. This left turn lane requires widening along most of the length between Hidden Lake Road and Mirabel Road. The remaining width of paving was used to create a left turn lane between Hidden Lake Road and Mirabel Road. This space could be striped and tapered out or it could be used to create a minimal reversing left turn lane into Hidden Lake which was the assumption for the best use of extra pavement. The left turn lane at Hidden Lake Road is not required from an operational standpoint. The limits are longer on SR 116 for the signal compared to the roundabout to allow for the pavement taper described above.

B5-7 Initial costs were developed with the draft PSR/PR in which the signalized intersection had a higher cost by approximately $0.5 million. The greater cost of the signalized intersection alternative was based on project limits and the cost of traffic signal equipment. The text of the Initial Study has been modified to indicate that the cost comparison was based on initial costs available when the roundabout was carried forward for environmental review.

Many of the construction stages are associated with lowering the highway and would still be necessary with a signal. The roundabout would require two stages for construction of the splitter islands and center circle.

B5-8 Noise conditions were not modeled for the signal alternative. The statement of a potential benefit was based on general literature about roundabouts compared to
signalized intersections available during preliminary scoping of alternatives (FHWA, 2000, p. 29). It is acknowledged that this benefit may not occur in all situations.

Project specific modeling for the roundabout shows that noise would be reduced in the vicinity of the SR 116/Mirabel Road intersection compared to existing conditions and the No Build alternative in the vicinity of the roundabout, due a reduction in travel speeds (Illingworth and Rodkin, 2010). During green light phases, vehicle speeds through a signalized intersection would range from 25 mph-35 mph (based on existing speed limits east and west of the intersection), compared to the 15 mph posted advisory speed for the roundabout. The roundabout would also reduce the number of complete stops and starts (even when there are heavy volumes, vehicles at a roundabout generally continue to advance slowly in moving queues rather than coming to a complete stop) (NCHRP, 2010). Though not modeled, it was reasonable to consider a potential noise benefit from a roundabout compared to a signal during the scoping phase.

B5-9  The commenter’s position regarding the roundabout is acknowledged.
Comment B6. Conway, Brenda

I oppose the roundabout planned for the Hwy 116 and Mirabel Road intersection in Forestville. I have seen the plans and they look lovely, however, the first time a truck runs over the edge it won't be so pretty. The trucks that use that intersection are not only the gravel trucks. The big Safeway and other delivery trucks do not bend in the middle and I anticipate many back-ups in traffic due to trucks trying to negotiate the circle. Also, the crosswalks look like accidents waiting to happen. People know not to cross here. Crosswalks give the impression that it is safe and it really is not. There have been very few accidents at the proposed intersection (none fatal that I am aware of). I have grown up and lived my entire life in this area and I do not agree a roundabout is appropriate. It is not broken, don't mess up what works by trying to fix it.
Response to Comment B6.

B6-1 The commenter’s opposition to the roundabout is acknowledged.

B6-2 The roundabout is designed with the turning of trucks in mind. The center island includes a truck apron which is meant to be used by truck drivers to navigate the circle without driving over curbs.

B6-3 Please see Master Response 5 for consideration of vehicle size in design of the roundabout.

Crossing is discouraged at the existing intersection because of factors including a lack of marked crosswalks and poor visibility due to the hill crest west of the intersection.

See Section 2.1.7.3 of the Initial Study for a description of roundabout benefits to pedestrian safety, including lower vehicle speeds approaching and within the roundabout, and fewer crossing conflicts (pedestrians only have to cross a single direction of traffic at one time).

B6-4 The project takes into account pedestrians and bicycles in a number of ways:

- High visibility crosswalks connect the sidewalks that encircle the roundabout.
- The splitter islands are open at the crosswalks to allow a pedestrian refuge area if a vehicle is coming in the opposite direction.
- All connections at the sidewalks have ADA access ramps
- The cross walks are designed with a very flat grade (2% maximum) in both the longitudinal and transverse directions to accommodate wheelchair access if required.
- The roundabout would have signage to alert motorists to the crosswalks.
- Lowering of the hill crest as part of the project would make the intersection visible sooner to vehicles approaching from the west, giving them more time to see pedestrians, and more time for pedestrians to see approaching vehicles.

B6-5 Please see Master Response 2 regarding accident data at the existing SR 116/Mirabel Road intersection.

B6-6 Please see Response B6-1.
Comment B7. Gardner Family

Dear Ms. Shearer:

I received the Public Notice soliciting comments about the proposed roundabout in the town of Forestville as our family owns a home in Forestville.

Our family OPPOSES ANY CHANGES TO THAT INTERSECTION. As you are aware, this isn't a small roundabout in a residential area but one that will require a monstrosity that will be able to handle all the huge commercial trucks that use that highway daily and mixing all those huge commercial vehicles with family sized vehicles is not a safe proposition. Leave the intersection as it is and add stop signs on Highway 116 so all vehicles using that intersection will stop before proceeding or install a stop lights for all directions.

Thank you.

The Gardner Family
Response to Comment B7.

Comment Letter B7

B7-1 The commenter’s opposition to the roundabout is acknowledged. Please see Master Response 5 for a discussion of the appropriate sizing of the roundabout for trucks. Commercial and passenger vehicles already share the existing intersection, and this would not change with the roundabout. See Section 2.1.7.1 for existing statistics on roundabout safety as well as a description of benefits to vehicular safety from roundabouts, including reduced vehicle speeds and fewer points of conflict between vehicles. Commercial and passenger vehicles alike are required to yield to other vehicles already within the roundabout. Because vehicles enter at an angle and circulate in the same direction within the roundabout, the potential for broadside collisions is reduced.

B7-2 Please see Section 1.4.3.2 for a discussion of installing stop signs on SR 116 at Mirabel Road and why that alternative was not carried forward for further consideration. Please see also Master Response 3. Please see Section 1.4.3.1 for a discussion of possible signalization of the SR 116/Mirabel Road intersection and why that alternative was not carried forward for further consideration. Please also see Response 13-1a.
Comment B8. Martens, Brian

COMMENTS

State Route 116 at Mirabel Road Intersection Improvement Project
Initial Study with Proposed Mitigated Negative Declaration
Public Meeting, February 6, 2013

Name: BRIAN MARTENS
Address:
City: FORESTVILLE  Zip: 95436
Email:

Comments:
I think this is a wonderful plan & idea. I trust that it will be accomplished. Roundabouts are safe, beautiful, low impact and are a forward looking concept. I love it. If you want more positive comments let me know.

This design fits well with Forestville. A stoplight or sign would slow traffic. Be more dangerous.

I want a Roundabout in Forestville.

Yes for Roundabouts

B8-1

Please use reverse side for more comments.

Return comments by 5:00 PM, February 19, 2013 to:
Caltrans, District 4, Office of Environmental Analysis, MS 8B
Attn: Valerie Shearer, Sr. Environmental Planner
P.O. Box 22980
Oakland, CA 94623

Email: Valerie_Shearer@dot.ca.gov
Response to Comment B8.

B8-1 The commenter’s support of the project is acknowledged.
Comment B9. Naegle, Richard

COMMENTS FORM

State Route 116 at Mirabel Road Intersection Improvement Project
Initial Study with Proposed Mitigated Negative Declaration
Public Meeting, February 6, 2013

Name: Richard Naegle
Address: [Redacted]
City: Fostville
Zip: 95436

Comments: Great concept. I like it.

Please use reverse side for more comments.

Return comments by 5:00 PM, February 19, 2013 to:
Caltrans, District 4, Office of Environmental Analysis, MS 88
Attn: Valerie Shearer, Sr. Environmental Planner
P.O. Box 23860
Oakland, CA 94623

Email: Valerie_Shearer@dot.ca.gov
Response to Comment B9.

B9-1 The commenter's support of the project is acknowledged.
Comment B10. Ritchie, Kent

TO: Cal Trans

FROM: Kent Ritchie

Valerie Sheaker Sr. Planner
P.O. Box 23660
Oakland, CA 94623

My property is immediately behind the Forestville Post Office adjacent to Huy 116. The truck traffic is frequent and noisy.

I would like to use the spoils from lowering Huy 116 to build a noise barrier. This would take the form of a berm (dirt) along my property frontage of Huy 116. Moving spoils over 50 yards requires a grading permit from the County. I want Cal Trans to acquire the grading permit. I plan to attend the 2/6/13 meeting at Forestville Recreational.

Regards
Kent Ritchie
Response to Comment B10.

B10-1 Noise modeling for the roundabout predicts that permanent noise levels at the commenter’s property would not change due to the project. Noise mitigation for permanent project impacts is not required, and construction of a noise barrier is outside of the scope of the project. The commenter may negotiate for soils from the contractor (or any other source of soils), but would be responsible for complying with the County grading ordinance and obtaining a grading permit from the County.
Comment B11. Spitzer, Kathleen and Stephen Miller

February 7, 2013

Valerie Shearer, Senior Environmental Planner
California Department of Transportation, District 4
Office of Environmental Analysis, MS 88
P.O. Box 23660, Oakland, CA 94623-0660

Re: State Route 116/Mirabel Road Intersection Project

Dear Ms. Shearer:

Last night I attended a town meeting devoted to the Forestville State Route 116/Mirabel Road Project (I cannot bring myself to include the word “Improvement” in the title).

My impression was that those who attended were definitely not in support of this project, and we are part of that group. Let me address our concerns as follows:

1. We don’t believe traffic data supports the need for this project. While there is data in the report for the three year period 2005 – 2007; I heard from many in the meeting that since 2007 there have only been three accidents in that intersection, well below the statewide average. Why haven’t we received more comprehensive data than three years?

2. The possible permanent increase to emergency response times is not acceptable, nor is the increase during the 15 months of construction. The proposed solution of a public education program is ridiculous. Many of the people driving through that intersection are from out of town, who certainly won’t be attending public meetings here to learn how to properly drive the roundabout.

3. We have lived on Ellen Lane, just off of Hidden Lake, for seventeen years, and we are more likely to be affected by increased noise pollution (including a permanent noise increase following the buildout), air pollution, and inconvenience of the construction. From 7 a.m. to 7 p.m. M-F, and 9 a.m. to 5 p.m. weekends. Why should that be, especially when we don’t feel there is sufficient need for this project? As I am sure you know, increased noise, especially traffic noise, is correlated with a higher incidence of myocardial infarction. Why should we have to take on those risks?

4. I heard casually that some parking spaces before Rotten Robbie’s gas station will need to be eliminated. The town gets pretty busy during the day, and we don’t have many parking places now; I don’t feel we should lose parking places for this project.
5. The visual drawings are not in keeping with the rural feeling of the town. The island looks like something you would see in a tract housing development, and the textured rock walls are hideous.

6. I am not sure the purpose of building the fourth lane "to nowhere" if there are no plans to build an overpass until 2035. It looks ugly and is a road to "nowhere" indeed.

We think there are many other areas where Sonoma County can put our transportation dollars to better use. What about something to curb the number of accidents at the Guerneville Road/116 intersection? I drive Bennett Valley Road from Grange to Santa Rosa regularly, and I can't tell you how many cars lose control and fall into the culverts there...can something be done about that? Or perhaps you can do something to permanently repave the huge pot holes that show up multiple times a year at the beginning of Hidden Lake Road?

I can see that a lot of work has gone into this project already, and we are sorry we didn't voice our concerns earlier, but we honestly have no recollection of receiving a "Notice of Project to Receive Environmental Review" in September, 2010, and we are not always available to attend all of the town meetings. I also think projects of this nature affect the entire town, not just individuals living within .5 miles of the project, and you should adjust your communications plan accordingly.

Based on the above concerns, we respectfully request that you abandon this project.

Best regards,

Kathleen Spitzer and Stephen Miller

cc: Supervisor Efren Carrillo
Sonoma County Board of Supervisors, 5th District
575 Administration Drive, Room 100 A
Santa Rosa, CA 95403
Response to Comment B11.

B11-1 Please see Master Response 2 regarding accident data at the existing SR 116/Mirabel Road intersection.

B11-2 Please see Master Response 4 regarding emergency response times once the roundabout is open to traffic. Please see Response B3-2 for a discussion of emergency response time during construction.

B11-3 As shown in Table 10 of the Initial Study, noise modeling predicts that noise will increase approximately one decibel at one receptor in the vicinity of Hidden Lake Road compared to the No Build alternative, and noise will increase by one decibel at other receptors in the vicinity of Hidden Lake Road with or without the project. These receptors are located approximately 80-110 feet away from SR 116. As described in Section 2.2.6, a one decibel increase is not perceptible to humans and even for these closest receptors is not a significant noise increase. Ellen Lane is located approximately 1200 feet away from SR 116. Because noise from linear sources including roadways declines by 3 decibels for each doubling of distance, the project would not have any permanent noise impacts to residences along Ellen Lane.

B11-4 It is acknowledged that some individuals are more likely to be affected by construction activities than others. Measures to minimize air quality and noise impacts from construction, including compliance with Caltrans Standard Specifications, have been included in the project, as described in Sections 2.2.5 and 2.2.6 of the Initial Study.

Construction hours have been selected to restrict work during sensitive night hours, while limiting the duration of construction. Further restriction of construction hours would increase the duration of construction and inconvenience to the public, including residents along Hidden Lake Road. Average noise levels from construction activities have been estimated at 86-87 dBA Leq(h) at a distance of 50 feet for the loudest activities (excavation of the road cut). As described in Section 2.2.6, noise from point sources including construction equipment drops by six dB for doubling of distance, so noise levels would be approximately 60 dB near Ellen Lane, which is about 1200 feet away from construction activities. See Response B11-3 related to traffic noise.

B11-5 The three on street parking spaces that will be eliminated are near the westerly end of the “downtown” business district. These parking spaces conflict with the end of a segment of sidewalk to the west and pose an obstacle for pedestrians transitioning from the sidewalk to the road shoulder. The business fronting these spaces has its own off street parking and should not be affected by the elimination of these spaces. Although the overall supply of parking in Forestville may be limited, these three spaces are not in a highly desirable location. The loss of these spaces would not result in significant secondary traffic, noise, or air quality impacts.

B11-6 Caltrans and the County acknowledge that aesthetics are subject to individual preferences. Center island landscaping shown in the visual simulations in the Initial Study was for illustrative purposes only. County staff has been coordinating with a local citizen’s committee on selection of landscaping features, and the most current landscape concepts prepared by staff and by the committee were also shown at the public meeting on February 6, 2013 and have been added to Appendix F of this Initial Study. As
described in Section 2.1.8, a public meeting will be held during which members of the public will be invited to comment on specifics of the proposed landscaping plan.

The textured rock wall shown in Figure 9 of the Initial Study shows the unmitigated scenario. Project mitigation would include landscaping the area between the lower and upper walls in order to partially screen the upper wall.

B11-7 It is Caltrans’ standard to consider how proposed projects will function 20 years into the future, which is the reason for analyzing intersection operations (both with and without the Forestville Bypass) to Year 2035. This does not mean that the bypass could not be constructed prior to 2035. Though the bypass is not currently funded, it may become an active project in the future depending on the availability of funding and prioritization of the project by the County or transportation planning agencies.

Reasons for building the southern leg of the roundabout at this time are described in Section 1.4.1 of the Initial Study, and include allowing access to an approved development project at the southwest quadrant of the intersection. Caltrans geometricians recommended constructing to the end of the splitter islands to prevent a private road from connecting too close to the roundabout, which could interfere with the roundabout operations.

Constructing the fourth leg would also ensure that textures and colors of the splitter island and concrete buffer between the curb and the pedestrian pathways would match those in the remainder of the intersection. The fourth leg also supplies a temporary location for maintenance vehicles to park and access the southern cut-slope during the initial three-year plant establishment period.

B11-8 Please see Master Response 6 regarding funding and the prioritizing of this project. It is not within the scope of the CEQA review to respond to comments on other potential projects within the county, however, note that the current project does include repaving of approximately the first 150 feet of Hidden Lake Road.

B11-9 Records indicate that a “Notice of Project to Receive Environmental Review” was mailed to 7025 Ellen Lane in September 2010. Noticing for the Draft Initial Study is described in Chapter 3, and included mailing to adjacent property owners and publication in a newspaper of general circulation (the Press Democrat) as required by CEQA.
Comment B12. Steiger, Macondray John

Mac Steiger To "valerie.shearer@dot.ca.gov" "valerie.shearer@dot.ca.gov"
01/18/2013 07:31 PM

Subject Ferselle Roundabout DED

Dear Valerie,

I'd like to weigh in with my comments regarding a new roundabout at Hwy 116 and Mirabel Road.

I am 100% in favor of this project... It will reduce the congestion, noise, and added pollution created by thousands of vehicles stopping and starting at this intersection every day, week, and year.

Great project, I definitely hope that it goes forward!

Best wishes,

Macondray (Mac) John Steiger
Response to Comment B12.

B12-1 The commenter’s support of the project is acknowledged.
My comments on the proposed project (Forestville Roundabout) are primarily focused on two subjects: 1) the project—Roundabout—and the level of analysis of the project; 2) the failure to include an analysis of the only realistic alternative to proposed project—Signalized Intersection Alternative at Mirabel Rd & Hwy 116.

The DED cleverly pursues the “straw man” approach to its alternatives analysis. Realistically the No Build Alternative is the existing condition which cries out for a remedy and is the raison d'etre for the project. The intent of an alternatives analysis is not to simply compare the proposed project with the existing condition which is already recognized as a poor condition needing an upgrade. Generally, doing something to solve a problem is better than doing nothing. This condition begs the question: “Is there a reasonable alternative project?”

The approach that is normally followed is to seek an alternative project that would realistically have substantial merit. If that approach were followed, there would be no doubt that the Alternative that would be considered and examined would be the Signalization Intersection at Mirabel Rd and Hwy 116.

The Mirabel Rd & Hwy116 Signalization Intersection project was identified in both the Canyon Rock Quarry and Blue Rock Quarry EIR's in 2006. This improvement project was also identified as a road improvement project to be funded in the voter approved Measure M in November 2004. In this DED that voter approved project has been buried under an avalanche of indifference.
Comment B13. Tibbetts, Nick, Consultant for Canyon Rock Quarry, P. 2

QUESTIONS AND OBSERVATIONS REGARDING THE PROPOSED NEGATIVE DECLARATION

Pg. 1: Q> What is the distance of the proposed Mirabel Rd. shoulder widening and bike/ped lane project? What is the status of the project? Proposed construction start date and completion date? What is the projected cost of the project? How much has been spent to date?

Pg. 2: Q> How steep is the final post project grade of Hwy 116 going east towards the proposed Mirabel Rd. Intersection project (MRX)? How does the grade compare or fit with the final grade of Hwy 116 coming west from downtown Forestville?

Pg. 5: Q> (Purpose—"Accommodate bicycle and pedestrian movements") Can you provide a directional illustration of the likely movements of the bicyclists and pedestrians?

Pg. 5: Q> (Need—Sources) Have you reviewed the DEIRs and the FEIRs of Canyon Rock Quarry and Blue Rock Quarry?

Pg. 5: Q> (Roadway Deficiencies) Assuming that the Hwy 116 grade west of Forestville will be reduced, would the problem of queuing trucks approaching the MRX be reduced with a left turn lane at Mirabel Rd along with a traffic signal?

Pg. 5: Q> (Safety) Did your accident information show any accidents resulting from a left hand turn from Hwy 116 onto Mirabel Rd?

Pg. 5: Q> Table 1 is not clear. The numbers do not add up. Can you clarify?

Pg. 6: Q> I do not see a Table 8. Do you mean Table 7?

Pg. 6: Q> What is the source (Study?) for the 2005 ADT number (8813)?

Pg. 6: Q> Is the 20% increase in vehicle traffic (1802) over the 30 year time frame significant in and of itself? Doesn't that pencil out to an annual average increase of 60 vehicles per day? (30 x .60 = 1800).

Pg. 6: The DED is in error regarding Canyon Rock Quarry and Blue Rock Quarry impacts. In CRQ’s case the project did not have a significant impact. *Cumulatively* both projects along with future area wide growth generated a significant impact at the MRX. Furthermore, the CRQ permit was not for a project expansion, but rather a project extension via a 20 year use permit to continue rock quarrying. Both quarries contributed monies for road and intersection improvements in Forestville. One of the improvements was specifically identified as “installing traffic signals at the intersection of Hwy 116 and Mirabel Rd.” (DEIR pg. IV.A-30).

Pg. 7: Q> Change quarry expansion to extension.

Pg. 7: Q> Does the Sonoma Bicycle and Pedestrian Plan (2010) show a connection from the West County Trail going north across Hwy 116? If yes, why do you not show it? If no, where do you expect it to logically connect?
Comment B13. Tibbetts, Nick, Consultant for Canyon Rock Quarry, P. 3

Pg.8: (Project Description): Q> Why is it necessary to extend the Roundabout with a completed fourth leg to nowhere out 300 feet? How much does this completed 300’ fourth leg cost? This fourth leg appears to be the longest? At this time shouldn’t the southern leg terminate at the sidewalk crossing? Will southeastern quadrant property developers be expected to pay for this leg or will it be left to today’s taxpayers?

Pg.8: Q> What is the diameter of the Roundabout’s center circle? 30’? Could the center size be smaller? If so, could the 20’ traffic lane and the 9.5’ traversable area be expanded in order to more easily accommodate fire trucks and other large trucks?

Pg.9: Q> What is the width of the shared sidewalks?

Pg.9: Q> Is the tiered retaining wall along Hwy 116 functionally necessary?

Pg.9: Q> Is it possible to make the Hwy 116 roadway cuts on the south side instead of the north side?

Pg.9: Lighting) Q>: Currently how much lighting is in place at the Mirabel/116 intersection? How many light standards would be required for the Mirabel/116 signalization alternative?

Pg.9/10: (Roundabout Landscaping): Q> Won’t elevated opaque center piece elements (big trees, rocks, & architecture features) reduce visibility when approaching the Roundabout? For large gravel trucks this could become a safety hazard.

Pg.10: (Right of Way Needs): Q> Have the necessary ROW lands been acquired in the SW quadrant?

Pg.10: (Property Access Modifications): During peak hour traffic getting gas at Rotten Robbie’s on the NE corner may prove challenging to the driver who wishes to exit onto Hwy 116 going east if the “Keep Clear” sign is not respected. If that is so, the vehicle will have to exit on Mirabel Rd going north, and wend its way through the eastern neighborhoods in order to return to Hwy 116 going east. This not only aggravates the vehicle driver, but will have traffic impacts in those eastern neighborhoods.

Pg.10: (Rotten Robbie from the West): A vehicle approaching Rotten Robbie’s on Hwy 116 from the west during peak hour traffic would likely have to head north in the Roundabout and enter the gas on the north leg off Mirabel Rd. Exiting would also have to be on the north leg sending the vehicle north and seeking an exit which would enable it to change directions 180°on Mirabel returning south so as to enter the Roundabout and head west.

Pg.10: Q> What is the impact of the 50% reduction in the length of the left turn pocket going north on Mirabel Rd which enters the shopping center on the northwest corner at the Mirabel Rd/Hwy 116 intersection? Presently the left turn pocket seems to accommodate two vehicles. Vehicles queuing up likely will block the Roundabout for those seeking to go west or north.

Pg.10: Q> References are made to queuing of traffic approaching the Roundabout. What does your traffic analysis assume and conclude regarding numbers of vehicles queuing during peak hour traffic? A
Comment B13. Tibbetts, Nick, Consultant for Canyon Rock Quarry, P. 4

recent news article in the Press Democrat suggests that vehicle drivers complained of queuing up for five (5) minutes at the new South Petaluma Blvd Roundabout.

Pg.11: Construction Sequencing and Traffic Handling: Q> How does the 15 month construction calendar compare with other local Roundabout projects? How would it compare with a signalization intersection alternative (SIA) project at Mirabel Rd and Hwy 116? In terms of length of time and traffic handling? Does the Roundabout construction timeline assume night work? If not, would the construction period be shorter?

Pg.12: Q> Signalized Intersection Alternative (SIA). The signalized intersection alternative (SIA) assumed a left hand turn lane going into Hidden Lake Rd. off Hwy 116 going west. Does the Roundabout project assume a similar left hand turn lane off 116 into Hidden Lake Rd? If not, why not?

Pg.12: Q> If the Signalization Intersection Alternative (SIA) was presented to the public in February 2009, why hasn’t the SIA been examined as an alternative under CEQA?

Pg.12: (Reasons for Elimination of the Signalization Intersection (SIA)):

1. Improved capacity and safety benefits associated with the Roundabout. Q> DED states the Roundabout does not increase capacity. Isn’t “improved capacity” another way of saying “increasing capacity”? Where is the evidence or data which supports “improved capacity and safety” at the Mirabel Rd /Hwy 116 intersection? Please refer to the EIR’s of Blue Rock and Canyon Rock Quarries and their respective traffic mitigations and justifications for those mitigations.

2. Potentially higher emissions for a signalized intersection based on the number of stopping/starting movements at the intersection> Does your traffic analysis provide evidence and data supporting this assertion? Note. A green light takes numerous vehicles at one time through an intersection. A red light stops a group of vehicles at one time. Q> Is there evidence/data showing that a Roundabout at peak hour traffic is continuous, free flowing, and without braking or stopping?

3. Explain the statement that the SIA would result in impacts to roadside ditches west of Hidden Lake Rd. Q> Evidence? Q> Why would the Roundabout not exhibit the same impact?

4. Evidence of more traffic noise assuming an increased number of stopping /starting movements associated with the SIA? What noise studies support this claim?

5. Aesthetics of signal poles and wires. Does the Roundabout display four (4) light standards in its project at Mirabel Rd. & Hwy 116?

6. Construction costs for the SIA is higher than costs for the Roundabout. Please provide a detailed breakdown of all costs associated with the Roundabout project and the SIA.

Pg.13: Q> How many people submitted written comments at the February 2009 meeting? What was the breakdown in project reference?

Pg.13: (Four Way Stop) Q> Did the four way stop alternative assume road improvements between Hidden Lake Rd and the Mirabel Rd & Hwy116 intersection?
Comment B13. Tibbetts, Nick, Consultant for Canyon Rock Quarry, P. 5

Pg. 13: (Project Funding—Estimated Costs and Scheduling) Q> Please provide data supporting all project costs. Q> When is the Mirabel Rd. Widening and Shoulders Project expected to begin construction? When is it expected to be completed? How much will the project cost? Please provide a breakdown of all costs.

Chapter 2> Environmental Consequences and Mitigations

Pg. 15: (Land Use): Table 3 Land Use and Zoning of Adjacent Parcels: Q> Could you replicate this Table for project parcels?

Pg. 18: (Consistency with State, Regional and Local Plans and Programs): General Plan Policy CT-5h: "...projects that enhance traffic safety but do not significantly increase capacity, including but not limited to traffic control devices, curvature reduction, turn lanes at intersections, shoulder improvements, reconstruction and resurfacing" (emphasis added)

Q> If two of the activities (in bold) identify critical elements in the signalization of Mirabel Rd/Hwy 116, how can the DED ignore the signalization as the preferred project, or at the least, as an alternative project for analysis?

Q> If the Roundabout is presumably more free flowing, would it not be unreasonable to conclude that it would potentially increase traffic capacity?

Q> Is there evidence (studies) demonstrating that in a given time frame at a peak hour that a Roundabout carries more vehicles through an intersection than a signalized intersection? Or vice versa? Was there a meaningful attempt to specifically answer this question at the project intersection?

Q> If one or the other scenario proves true, does that suggest that capacity is subject to being increased? If not, why not? In short, will the Roundabout increase capacity? Will the signalized intersection increase capacity? Is there a difference in the carrying capacity between the two types of intersections? Can a case be made?

Note: The GP Policy CT-5h spells out very clearly that in 2010 the SIA was clearly a viable solution to improving the traffic at Mirabel Rd & Hwy 115. This clearly demonstrates that the SIA needs to be studied as a traffic improvement project.

Pg. 19: (Roundabout): The DED concludes by stating “The project (Roundabout) is consistent with policies CT-3f and CT-5h because it would improve the safety of SR116/Mirabel Rd intersection but would not significantly increase the capacity of SR116.” Again, this conclusion is without hard evidence or data supporting the project at the intended intersection location. The conclusion needs quantitative data buttressed with a baseline.

Q> Is it fair to conclude that the signalized intersection project is consistent with policies CT-3f & CT-5h?
Comment B13. Tibbetts, Nick, Consultant for Canyon Rock Quarry, P. 6

P19-20: (Trees and Center Island): Q> Will planting trees in the center island enhance or diminish traffic safety? Will trees become opaque impairing visibility through the island and diminish safety?

Pg. 20: Q> Was the potential for tree removal evaluated in the SIA? Were more trees impacted? Fewer trees?

Pg. 20: Q> When the Sonoma County 2009 Comprehensive Transportation Plan substituted the Roundabout for the SIA in Forestville, did the document provide evidence and/or data to support its conclusion relative to the acceptability of the Roundabout at that Forestville location?

Pg. 21: (Parks and Recreation): Q> Shouldn’t the Roundabout connection to the West County Trail be identified and evaluated now to insure that the connection will fit smoothly into the Roundabout project instead of leaving it to a future study and delayed implementation?

P21-22: (Growth): Q> Does the SIA induce growth?

P22-28 (Farmlands):

Pg. 24: It would be helpful if Table 4 had a fifth (5th) column showing per parcel acreage size.

Pg. 27: A parcel map identifying the five project parcels by parcel number would be helpful.

Pg. 28: Q> Is Figure 5 showing impacts using color coding “to scale” relative to the entire map? Those areas below Hwy 116 seem disproportionately large.

P29-30 (Community Character and Cohesion): Q> Does the amended 2020 General Plan (September 2010) address specific road improvement s in Forestville? Q> Does the SIA comply with 2020 General Plan?

P30-32 (Relocation and Real Property Acquisition):

Pg. 31: A parcel map accompanying Table 6 would be helpful.

Pg. 31: Q> Doesn’t restricting access (ingress and/or egress) to a private parcel constitute a significant impact which needs to be mitigated? Doesn’t peak hour traffic potentially reduce the property owner’s business? Q> Doesn’t the peak hour traffic adjacent to the gas station potentially increase off site neighborhood traffic as vehicles move to re-enter the Roundabout at a different location or try to avoid it altogether? The neighborhood in question is north and east of the gas station. What is the evidence that a “Keep Clear” sign painted on the pavement will be effective mitigation?

The north bound left turn lane off Mirabel Rd is reduced by approximately 50%. Doesn’t that constitute a potentially significant impact on the shopping center and on North bound Mirabel Rd traffic? Doesn’t that also create a potential blockage in the free flowing traffic circumventing the Roundabout? As vehicles wait in the traffic lane to turn left (across south bound traffic) vehicles behind the turning vehicles will be forced to reduce speed or stop altogether creating a potential blockage.
Comment B13. Tibbetts, Nick, Consultant for Canyon Rock Quarry, P. 7

P.32-34 (Utilities and Emergency Services): Q> Does the SIA impact utilities and/or emergency services? Does the Roundabout impact utilities and/or emergency services?

Q> Is “some increase to emergency response times” a potentially significant impact? The Initial Study shows “no impact” in response to the statement, “result in inadequate emergency access?” See also “Less than significant” under the category XIV Public Services—fire protection. Q> Has a worst case scenario analysis been conducted on this issue? Such an analysis would have to assume peak hour traffic within and near the Roundabout. It must focus on both delays in response time and on the facility with which to navigate the Roundabout with maximum traffic under the duress of a fire vehicle on its way to answer an emergency call. The fire chief in his September 27, 2010 letter suggested that there would be a delay in response time.

Pg. 34: The No Build Alternative would not impact emergency services operations. Q> What is the basis of that conclusion? Q> Would the signalized intersection alternative not impact utilities and emergency services operations?

Pg. 34: Mitigation measures include a public education campaign to inform area drivers and residents about Roundabouts and emergency vehicles. One group that will be particularly vulnerable and hard to reach will be tourists.

Pg. 35-40 (Traffic and Transportation/Pedestrian and Bicycle Facilities)

Pg. 35 Table 7: “Existing and Future Traffic Levels of Service”

Q> What would Table 7 show with the Signalization in the column of Intersection Configuration?

Q> Which hour(s) are AM and PM peak?

Q> Given the historical traffic patterns at Mirabel Rd & Hwy 116, is it reasonable to assume that the Roundabout worst movement is the average of all movements? This isn’t an intersection where traffic flows are evenly divided by direction. Isn’t it reasonable to assume one leg or another may have a longer delay to enter the Roundabout than other legs given the particular time of day?

Q> What impact do a busy gas station and a small shopping center have on the ability to enter the Roundabout? In the summer will a long line of fully laden gravel trucks make it difficult for cars to enter the Roundabout? Petaluma has 8 Roundabouts. Do any of them have major business sitting on two of the three or four corners of their Roundabouts?

Pg. 36 (Safety): Q> In the 2007 Study showing the results of converting intersections to Roundabouts. How many of the converted intersections changed from traffic signalized intersections to Roundabouts?

Q> Is the proposed Roundabout at Mirabel Rd & Hwy 116 a typical rural Roundabout as described in the 2007 Study? Forestville may technically be termed rural based on its population, but its traffic patterns are not rural.

Q> Will the signalization intersection alternative improve traffic safety at Mirabel Rd & Hwy 116?
Comment B13. Tibbetts, Nick, Consultant for Canyon Rock Quarry, P. 8

Pg.37 (Oversized Vehicles Alternatives): Q> “As an alternative oversized vehicles could opt to use River Road to SR 116 to access the quarries.” Does this presume travelling all the way out to Guerneville and returning through Pocket Canyon? If so, that is less realistic than shutting down the intersection for 15 minutes.

Pg.39 (Pedestrians) Q> Who has the right of way in a Roundabout? Pedestrians? Will pedestrian and bicycle traffic interrupt the free flow of the Roundabout vehicular traffic?

Pg.39: Q> Would the Signalized Intersection Alternative (SIA) at Mirabel Rd & Hwy 116 include sidewalk crossings?

Pg. 40: Q> Would the Signalized Intersection Alternative (SIA) facilitate safe bicycle traffic?

Pg. 41-50 (Visual/Aesthetics): “Overall the project (Roundabout) would have a moderate visual impact...Project features of the Roundabout would have a more developed appearance than the existing intersection and would accentuate transition from downtown to the more rural areas to the west.” Q> Would the Signalized Intersection Alternative have less than moderate visual impact and a less developed appearance than the Roundabout? Evidence? Q> The Roundabout visuals show four light standards. Would the Signalized Intersection Alternative have fewer light standards?

Pg.68-74 (Air Quality) The DED does not appear to address or attempt to measure potential air quality impacts of the operation of the Roundabout. This is a serious omission in the DED analysis. Without data or evidence the document suggests that without generating new traffic “the project (Roundabout) would improve operations at the Mirabel Rd & Hwy116 intersection and reduce vehicle idling.” The DED does not acknowledge nor recognize conditions of blockage within and approaching the Roundabout during peak hours of traffic. It does not attempt to examine the potential impacts of vehicle queuing when approaching the Roundabout. It is in the queuing process that potential Roundabout traffic will idle and engage in stop and start movements.

Q> Was there an analysis of the air quality impacts of a Signalized Intersection at Mirabel Rd & Hwy116?

Pg.74-79 (Noise) The DED’s Noise Study (2010) concludes that the noise increase is not substantial. The DED point out that is also true with The No Build Alternative. Presumably that would also be for the Signalized Intersection alternative. Was a worst case scenario involving traffic blockage and stopping and starting movements analyzed for noise impacts?

PPg.100-105 (Cumulative Impacts) The absence of addressing potential cumulative impacts in traffic is unusual to say the least insofar as the DED engaged in seven (7) pages of description and commentary in its Transportation section.

Pg.103 (Noise) The noise analysis (modeling) assumed an astounding (referred to as conservative) “growth rate of 3.7% ... applied to the existing traffic data to reflect projected growth and development in the project area.” Q> How does this “conservative” growth rate increase square with the traffic section assumptions, data and analysis? (ppg.34-41) (See also ppg.5-6)
Comment B13. Tibbetts, Nick, Consultant for Canyon Rock Quarry, P. 9

Traffic counts reported on page six (6) reflect a baseline of 8813 (2006) and a projected 10,620 in 2035. This represents an ADT increase of 1,802 in the 30 period. That represents an aggregate increase of about 20% over the 30 year period or a traffic growth rate of less than 1% per year. If as stated on page 103 above, the growth rate of 3.7% suggests significantly higher traffic numbers than reported in the traffic and transportation section.

This DED has an internal conflict relative to its traffic data and the data needs to be reconciled. Q> Is it merely a matter of semantics when the DED keeps stating the Roundabout as designed won’t increase traffic capacity in the project area (Forestville)? Or, it (Roundabout) won’t induce growth. Q> Will the Roundabout as designed accommodate significantly more growth and traffic than planned for in the Sonoma County General Plan 2010? If the answer is yes, then doesn’t it potentially increase capacity of the intersection? There is an unspoken internal logic to the concept of a Roundabout—It enables free flowing traffic, reducing congestion and thereby releasing pent up traffic capacity. Isn’t this another way of stating that a Roundabout does potentially increase traffic at a given intersection?

PPg. 106-116 (Climate Change & Green House Gas Emissions): The DED bloviates for ten (10) regarding the current science relative to analyzing GHGs in the context of CEQA. In the 10 pages it made no attempt to do a quantitative analysis of the GHG emissions. It declares the Roundabout would reduce congestion by allowing continuous flow through the intersection, reducing the stop and go movements and the resulting vehicle back-ups along Mirabel Rd. As such vehicle emissions of greenhouse gasses are expected to decrease.

Pg. 110: In one of the very times the document refers to the Signalized Intersection Alternative it makes a gratuitous swipe at electrical traffic signals by saying, “The Roundabout would not require the energy consumption and GHG emissions associated with operation of an electrical traffic signal. With that significant distinction amplified between the Roundabout and the Traffic Signal I have finally come to understand why the NO Project Alternative is the only Alternative meriting analysis.
Response to Comment B13.

B13-1a The Initial Study did not identify any significant impacts on the environmental of the roundabout alternative that cannot be mitigated to a level that is less than significant with the proposed mitigation measures. Therefore, Caltrans proposes to adopt a mitigated negative declaration for the project. CEQA does not require analysis of alternatives for mitigated negative declarations even if viable alternatives to the project exist. It is Caltrans’ practice in general to include analysis of the No Build Alternative to provide information on the effects of not implementing the proposed project.

Further history of the development of project alternatives is provided here. The County initiated the project as a signal in 2006 and developed a preliminary design of the signalized alternative. In January 2008, the County informed the Project Development Team (PDT) at Caltrans that a citizen group was interested in pursuing a roundabout design. Caltrans and the County studied the roundabout to determine the appropriate geometrical design and determine that the roundabout would function from a traffic operations standpoint. The PDT gave conceptual approval to the roundabout in February 2009 as a viable solution to enhancing traffic operations and safety at the intersection of SR 116/Mirabel Road (Caltrans, 2009).

As described in Chapter 3 of the Draft Initial Study, the County held a public meeting in February 2009 presenting the signal and roundabout alternatives to the public. A majority of the informal comments at the meeting and written comment cards received was in favor of the roundabout (please see also Response B13-36).

Based on potential benefits of a roundabout (see Section 1.4.3.1 of the Initial Study) identified from conceptual review of the alternatives, and on favorable feedback from the meeting, the County requested, and the PDT concurred, that the roundabout be carried forward as the only build alternative to be studied in a combined Project Study Report/Project Report (PSR/PR) (which by Caltrans policy has only one build alternative). In September 2010, the County mailed a Notice of Project to Receive Environmental Review to property owners as described in Chapter 3 of the Initial Study. This notice identified the roundabout as the proposed project.

Accordingly, the signal alternative is not analyzed in the Initial Study.

B13-1b The Canyon Rock and Blue Rock quarry EIRs’ mitigation measures did identify installing traffic signals as one of the intersection improvements at SR 116/Mirabel Road. In the Sonoma County Board of Supervisors Resolution 08-0089 (January 29, 2008) approving Canyon Rock’s use permit, the Board found that requiring Canyon Rock to pay its fair share to mitigate traffic impacts would not constitute approval or commit the County to any specific engineering design. Roundabouts are another method of achieving the necessary operational improvements at the intersection that the mitigation measure was intended to address.

Measure M identifies the Forestville Bypass as a project eligible for funding. The 2005 Measure M Strategic Plan describes the project to “realign an “S” curve on Highway 116 and construct minor widening and signalization at the intersections of Highway 116/Packing House and Highway 116/Mirabel. The project would relieve congestion through downtown Forestville and improve safety.” The roundabout project will meet or exceed the intent of the project to relieve congestion and improve safety. The cost
of construction of a traffic signal is greater than the cost of the roundabout so the substitution of the roundabout will extend the already limited Measure M funding. The entire amount of Measure M funding committed to the project ($2,000,000) is a relatively small percentage of the funding required. At the time Measure M was written and placed on the ballot, there wasn’t a lot of consideration of roundabout intersections locally or even statewide. Since then roundabouts are being looked at much more routinely as an alternative to traffic signals. The cost savings and enhanced safety are compelling arguments for the use of roundabouts. SCTA’s 2011 Measure M Strategic Plan includes the construction of the roundabout at SR 116/Mirabel Road. Several other Measure M projects that originally mentioned installation of a traffic signal have been converted roundabouts. These changes are consistent with the Measure’s goals to relieve congestion and improve safety.

B13-2 The Mirabel Road Shoulder Widening Project, a County project, is described in Section 2.4, Cumulative Impacts, of the Initial Study. As described in the Initial Study, the project is undergoing preliminary design, and the construction schedule is uncertain, though the Initial Study states that the two projects could be in construction simultaneously. Current cost and expenditure information for the Mirabel Road Shoulder Widening is not relevant to the environmental review for the SR 116/Mirabel Road Intersection Improvement Project.

B13-3 A profile drawing is included in Appendix B of the Initial Study. Climbing up the hill heading eastbound on SR 116 west of the hill crest, the post-project profile is 6.5%. Heading east toward the SR 116/Mirabel Road intersection from the hill crest, the post project profile is 3.0%. Heading west toward the roundabout from downtown, the post-project profile is 6.9%. The profile within the inscribed diameter of the roundabout is 3.00%, and 1.8% within the crosswalks on SR 116.

B13-4 Currently there are no crosswalks at the SR 116 intersection. The most likely pedestrian movement would be across the Mirabel Road approach between the downtown and Westside Center. Crossings of SR 116 would also be expected if adequate crossings were provided, either currently from the area informally used for parking and Christmas tree lighting activities, in conjunction with approved or future developments south of SR 116, or in the future in connection with the West County Trail. Likely bicycle movements would be similar to vehicle movements.

B13-5 The DEIRs and FEIRs of Canyon Rock Quarry and Blue Rock Quarry have been reviewed and considered in this Initial Study and information incorporated as needed.

B13-6 Please See Response B13-1a regarding analysis of the signalized intersection.

B13-7 Two accidents from the 6-year period of 2005-2011 were from eastbound Hwy 116 motorists travelling to northbound Mirabel Road. Please see also Master Response 2.

B13-8 Each column of the table represents the accident rate, expressed as the number of accidents on SR 116 per million vehicle-miles. The final column represents the accident rate for all types of accidents, including non-injury accidents. The columns are not meant to be added. The table headings have been clarified and updated with more recent data. Please see also Master Response 2.

B13-9 The reference should state Table 7. The text of the Initial Study has been corrected.
In 2011, SCTA provided the County with the 2005 ADT volume of 8,813, based on the Sonoma County Traffic Model.

It is correct to state that the increase in ADT of 1807 vehicles over the 30 year period pencils out to a yearly increase in ADT of approximately 60.23 vehicles. This increase drives the decrease to LOS F for the No Build alternative for the a.m. and p.m. peaks calculated for Year 2035.

The text of the Initial Study has been clarified to state that the EIRs for the quarries identified cumulative impacts at the SR 116/Mirabel Road intersection from the two proposed mining operations in combination with area wide growth. This impact was identified for the “Near Term Cumulative” condition in the DEIRs (which was defined as the time the quarries began mining within their expansion areas, but was assumed to be 2007 for purposes of the Canyon Rock DEIR analysis and 2005 for the Blue Rock DEIR). Note that in the discussion of Near Term Cumulative impacts, the Canyon Rock DEIR states “the traffic due to either quarry expansion alone would add more than five seconds of delay, which would be significant under the County’s criteria.” (DEIR, p. IV.A-7)

It is acknowledged that the Canyon Rock Quarry permit was a project extension via a 20-year use permit to continue mining, but it also expanded the area available for mining. The project was titled “Canyon Rock Quarry Expansion Project” in the EIR and that name and descriptor is used for consistency.

Please see Response B13-1b regarding the identification of a traffic signal as a mitigation measure for the Canyon Rock Quarry EIR.

Please see Response B13-12.

The Sonoma County Bicycle and Pedestrian Plan (2010) does show a connection from the West County Trail north across SR 116. As described in the text on page 7 of the Initial Study, the proposal for the trail “is to connect to SR 116 at the Mirabel Road intersection.” It is not necessary to show this graphically.

Please see Response B11-7 regarding reasons for constructing the fourth leg at this time, and the reason it will be constructed to the end of the splitter islands.

The length of the fourth leg from the south edge of the circular roadway is approximately 200 feet, which is comparable to that of the eastbound approach. The minimum recommended length of the splitter island is the comfortable deceleration length. According to AASHTO: A Policy on Geometric Design of Highways and Streets, the comfortable deceleration length for 40 mph-45 mph is approximately 160 ft-200 ft.

The project is funded by a combination of sources: Measure M funds, Countywide traffic mitigation fees, quarry expansion mitigation fees and Proposition 1B- Local Street and Road, Congestion Relief, and Traffic Safety Account funds. The preliminary capital cost estimate for the project, which consists of right-of-way and construction costs, is $7,029,000. The fourth leg is included in the overall cost of the
project, and would be paid for from the existing project funding sources listed in Section 1.5.

B13-16 Please see Master Response 5 for a discussion of sizing of the roundabout.

B13-17 The width of the shared sidewalks is variable, with a minimum of 6 feet.

B13-18 The tiered retaining wall along SR 116 is not functionally necessary. The County proposed a tiered wall to reduce visual impacts of the project to the designated state scenic highway. Citizens raised concerns about the appearance of a large single wall at the February 26, 2009 public meeting, and stated a preference for a tiered wall.

B13-19 The roadway cut slope is proposed for the south side.

B13-20 Please see Section 2.1.8 for a description of the existing intersection lighting. Please see Response B13-1 regarding analysis of the signalized alternative.

B13-21 Roundabout center island landscaping is typically divided into zones for safety purposes. According to FHWA’s *Roundabouts: An Informational Guide*, landscaping should be selected so that sight distance is maintained where needed, but also strategically placed to encourage slow vehicle speeds (NCHRP, 2010). According to Caltrans policies, the perimeter zone of 30 feet for this project must be free of fixed objects (such as trees or rocks) that could be struck by vehicles in order to allow an errant vehicle to recover (i.e. the clear recovery zone) and must not exceed 24 inches in height to maintain required sight distance. According to the FHWA, a mounded central island is desirable to increase the visibility of the roundabout to vehicles on approach. Placing objects such as trees or rocks in the interior zone of the central island can block headlight glare and provide approaching drivers an indication they cannot drive straight through the intersection, but should be placed in a location where the geometry of the roundabout deflects approaching vehicles away from the object (NCHRP, 2010). The final landscaping plan would be required to meet all Caltrans sight distance and clear recovery zone requirements.

B13-22 The right-of-way at the southwest quadrant has not yet been acquired.

B13-23 Vehicles are required by law to abide by the “Keep Clear” pavement markings. If it were difficult to head east directly out of the southern driveway, it is most probable that most vehicles wishing to head east on SR 116 from the Rotten Robbie driveway would instead make a right-turn exit onto SR 116 heading west, travel around the roundabout (to make a u-turn), and return heading east on SR 116. (Modeling of truck turning movements indicates the roundabout can accommodate the u-turn movement. The Rotten Robbie driveway would accommodate the right turn movement for most trucks, though the 65-foot California legal truck would slightly encroach on the splitter island and sidewalk.) This route is more direct than taking a much longer route using neighborhood streets, the closest of which is Davis Lane. The project would not create significant impact to neighborhood streets.

B13-24 The commenter is correct that a vehicle approaching Rotten Robbie from the west during peak hours would need to head north at the roundabout and enter at the Mirabel Road driveway. (Please see also Response B5-4). However, exiting would not
have to be on the north leg. The driver could make a right turn exit out of the SR 116 driveway to head west. Please see B13-23.

B13-25 Please see Response B4-4.

B13-26 The 2035 LOS analysis for the roundabout determined queue distances on each approach for peak hours both with and without the Forestville Bypass in operation, as follows:

<table>
<thead>
<tr>
<th>Approach</th>
<th>Roundabout No Bypass (3-leg) – Queue Distance in Meters</th>
<th>Roundabout Bypass (4-leg) – Queue Distance in Meters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AM</td>
<td>PM</td>
</tr>
<tr>
<td>East: WB SR 116</td>
<td>7.5</td>
<td>21.1</td>
</tr>
<tr>
<td>North: SB Mirabel Road</td>
<td>11.9</td>
<td>12.6</td>
</tr>
<tr>
<td>West: EB SR 116</td>
<td>11.1</td>
<td>8.6</td>
</tr>
<tr>
<td>South: NB Mirabel Road</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

(Caltrans, 2011)

The LOS analysis indicates that the average peak hour delay for all movements for the roundabout does not exceed 8.7 seconds (see Table 7 of the Initial Study) and does not exceed 13.6 seconds for any individual movement (Caltrans, 2011). Reports of queuing at other roundabouts are not relevant to the analysis of the proposed project.

B13-27 The construction period for the proposed roundabout cannot be readily compared with other roundabout projects. Many of the construction phases relate to lowering the profile of SR 116 while maintaining two-way traffic. Please see Response B5-7 for information on construction phases compared to a signal at this location. The roundabout construction timeline assumes night work in only a few limited cases when single lane closures are required. See Section 2.2.6 for a description of work hours. Night work would shorten the construction period, but is not proposed due to potential noise impacts to residents.

B13-28 Please see Response B5-6.

B13-29 Please see Response B13-1a regarding analysis of the signalized intersection.

B13-30 Operational studies using SIDRA were conducted during the Conceptual Approval process. The analysis compared the Level of Service (LOS) of the intersection under existing and future (2035) traffic conditions for various intersection designs, including conventionally Signalized, as well as a Single Lane Roundabout designs. Operationally, the LOS for the Single Lane Roundabout was far superior to the Signalized alternative. Under future conditions the conventional Signalized design will operationally brake down to failing conditions (LOS F) while the Roundabout design
performs with an acceptable maximum degree of saturation (LOS A-AM Peak 4 leg Roundabout study).

The identification of a safety benefit was based on general literature about roundabouts. Please see Section 2.1.7.1 of the Initial Study for a description of safety benefits of a roundabout, including slower vehicle speeds that reduce the severity of crashes, the elimination of crossing conflicts, and reduction in vehicle to vehicle points of conflict. A study of nine intersections converted to roundabouts from signalized intersections showed a reduction in overall and injury vehicular crashes (NCHRP, 2007).

B13-31 Emissions were not modeled for the signal alternative or roundabout. The statement of a potential benefit was based on general literature about roundabouts compared to signalized intersections. It is acknowledged that this benefit may not occur in all cases. The first edition of FHWA’s Roundabouts: An Informational Guide states that:

Roundabouts may provide environmental benefits if they reduce vehicle delay and the number and duration of stops compared with an alternative. Even when there are heavy volumes, vehicles continue to advance slowly in moving queues rather than coming to a complete stop. This may reduce noise and air quality impacts and fuel consumption significantly by reducing the number of acceleration/deceleration cycles and the time spent idling.

The second edition of the guide further states that:

The usual basis for selection is that a roundabout will provide better operational performance than a signal in terms of stops, delay, vehicle queues, fuel consumption, safety, and pollution emissions. For planning purposes, this may be assumed to be the case provided that the roundabout is operating within its capacity. A roundabout that operates within its capacity will generally produce lower delays than a signalized intersection operating with the same traffic volumes and right-of-way limitations. (NCHRP, 2010, p. 3-32)

Though not modeled, it was reasonable to consider a potential noise benefit from the roundabout during the scoping of alternatives. The LOS analysis for the roundabout indicates that it will operate within its capacity.

B13-32 Please see Response B5-6.

B13-33 Please see Response B5-8.

B13-34 The roundabout simulations display four light standards. Please see Figure 7 of the Initial Study, and the text description of proposed lighting in Section 2.1.8.

B13-35 Please see Response B5-7.

B13-36 Fifty-seven people signed in to the February 2009 meeting. Twenty-three people submitted written comments. Of these, 16 expressed explicit support of the roundabout alternative, 2 people expressed general support of the project without explicitly identifying an alternative, 4 people commented on specific design issues but did not state a preference for a particular alternative, and one person stated opposition
of the project in general. No comments stated a specific preference for the signalized alternative.

B13-37 The LOS analysis of the 4-way stop does not require consideration of whether or not there are improvements between Hidden Lake Road and Mirabel Road. These considerations do not affect the calculation of LOS. A four-way stop (with or without sight distance improvements) would have an unacceptable Level of Service for year 2030, as stated in Section 1.4.3.2 (HDR, 2008). Some members of the public have suggested installing a stop-sign on SR 116 without including sight distance improvements, which would not meet safety standards. Please see also Master Response 3.

B13-38 A breakdown of project costs is available as Attachment C of the Draft Project Study Report/Project Report (Caltrans, 2013).

As reported in the Draft Project Study Report/Draft Project Report, the overall cost and funding sources are as follows:

<table>
<thead>
<tr>
<th>Funding Type</th>
<th>R/W Capital</th>
<th>Construction Capital</th>
<th>Subtotal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Mitigation Fees</td>
<td>$69,000</td>
<td>$5,060,000</td>
<td>$5,129,000</td>
</tr>
<tr>
<td>Measure M Funds</td>
<td>$500,000</td>
<td>$500,000</td>
<td>$500,000</td>
</tr>
<tr>
<td>Quarry Expansion Fees</td>
<td>$900,000</td>
<td>$900,000</td>
<td>$900,000</td>
</tr>
</tbody>
</table>

Please see Response B13-2 regarding the schedule and cost of the Mirabel Road Shoulder Widening Project.

B13-39 Table 3 includes all parcels impacted by the project. Parcel boundaries and assessor parcel numbers have been added to Figure 3 to assist in the identification of parcels.

B13-40 The roundabout was reviewed by Sonoma County PRMD Comprehensive Planning staff and found to be consistent with GP Policy CT-5h. The policy describes types of projects that enhance safety including but not limited to those listed. It does not require analysis of any particular alternative at any given location. (Optional: Roundabouts have been identified by FHWA as a proven safety countermeasure at intersections (FHWA, 2012). Please see Response B13-1a for a discussion of the signalized alternative.

B13-41 The proposed Roundabout design will facilitate greater operational efficiency than the current design as well as the conventionally Signalized alternative. Please see response to comment 13-30 for LOS improvement details.

B13-42 FHWA’s *Roundabouts: An Informational Guide* states that:
The usual basis for selection is that a roundabout will provide better operational performance than a signal in terms of stops, delay, vehicle queues, fuel consumption, safety, and pollution emissions. For planning purposes, this may be assumed to be the case provided that the roundabout is operating within its capacity. A roundabout that operates within its capacity will generally produce lower delays than a signalized intersection operating with the same traffic volumes and right-of-way limitations. (NCHRP, 2010, p. 3-32)

Please see response to Comment B13-30. Existing and future traffic volumes (projected to the year 2035) are within the operational capacity of the Roundabout.

Please see also Response B13-40 regarding GP Policy CT5-h.

B13-43 Please see Responses B13-30, B13-41 and B13-83 regarding intersection capacity.

While the project is not classified as a safety a project initiated for accident reduction (i.e. the intersection does not meet the traffic signal warrant for accident experience), when the intersection is improved according to current design standards, safety, in terms of adequate sight distance, etc., will also be improved.

B13-44 Please see Response B13-1a regarding analysis of the signalized intersection.

B13-45 Please see Response B13-21.

B13-46 Please see Response B13-1a.

B13-47 As indicated in Section 2.1.1.2 of the Initial Study, the Sonoma County 2009 Comprehensive Transportation Plan did not substitute the roundabout for the signalized intersection. The project list in the CTP includes signalization. The Initial Study analyses the consistency of the roundabout with the policy goals stated in the CTP.

B13-48 The future use of the parcel where the trail connection would be located is unknown at this time, the trail layout has not been finalized, and a public easement has not been obtained. It is expected that the trail will connect to the shared pathway around the outside of the roundabout and cross at the crosswalk, but the precise connection point is not known. The current roundabout design complies with ADA and would not preclude a connection with the trail. The avoidance and minimization measure is sufficient. Please see also Comment Letter A4 and Responses A4-1 and B13-14.

B13-49 Please see Response B13-1a regarding analysis of the signalized intersection.

B13-50 Per parcel acreage size is shown in Table 5.

B13-51 Figure 4 identifies the five projects parcels. Parcel identifiers 1-5 in the table correspond to parcels 1-5 on Figure 4. Parcel numbers have been added to Figure 4 for the reader’s convenience.

B13-52 Figure 5 shows color coded farmland impacts to scale relative to the aerial photograph, and accurately reflect the proposed conversion of farmland, including those areas within an existing County slope easement.
The following Sonoma County General Plan policies relate to road improvements in the Russian River Planning Area and Forestville:

Policy CT-7g: When a bypass route for Highway 116 in Forestville is completed, encourage Caltrans to designate the bypass route as a State Highway.

Policy CT-7h: Consider traffic calming improvements in the unincorporated communities of Forestville, Guerneville, and Monte Rio.

Policy CT-7k: Work with Caltrans in considering passing and turning lanes along Highway 116 to reduce congestion, provided that the improvements are consistent with the designated road classifications.

Figure CT-1d, Transportation Network Improvements, Planning Area 4 - Russian River Area, shows the bypass route, traffic calming in downtown Forestville, Class II bike lanes on SR 116 and Mirabel Road, and a Class I West County Trail connection to the Forestville Youth Park.

Please see Response B13-1a regarding analysis of the signalized alternative.

Parcel boundaries and parcel numbers have been added to Figure 4 to help identify project parcels. Though subject to change in final design, proposed right-of-way for the project is shown in Appendix B, Attachment A1.

Vehicles approaching from any direction will be able to access Rotten Robbie by using the roundabout to navigate to the appropriate driveway. The modifications to driveway ingress and egress do not constitute a significant impact. Please see also Response B5-4, B13-23, and C7-8.

Vehicles will be able to enter Rotten Robbie during peak hours by traveling north on Mirabel Road and using the Mirabel Road entrance. Please see also Response B5-4.

Please see Responses B13-23 and B13-24.

Please see Response B4-4.

Please see response B13-1a regarding analysis of the signalized alternative. Impacts of the roundabout to utilities and emergency services are discussed in Sections 2.1.6.1 and 2.1.6.2 of the Initial Study. This comment does not raise any specific issues regarding the analysis; therefore, no response is required.

Please see Master Response 4 regarding the impact of the project on emergency response times. The project does not result in inadequate emergency access. All parcels will remain accessible with implementation of the project, and Appendix A, XVI (e) was appropriately marked “no impact.” As the commenter notes, Appendix A, XIV (a) was marked “less than significant” for fire protection to reflect a less-than-significant impact on emergency response times.

Under the No Build Alternative, the intersection would operate as it does currently and would not change emergency services operations.
B13-62 Please see Master Response 4 regarding the effectiveness of the public education avoidance and minimization measure.

B13-63 Please see Response B13-1a regarding analysis of the signalized intersection.

B13-64 The 2035 LOS analysis used a.m. peak hours of LOS 7:00-9:00 and p.m. peak hours of 4:00-6:00. The existing conditions LOS analysis used an a.m. peak hour of 7:30-8:30 and a p.m. peak hour of 4:30-5:30.

B13-65 It is common to describe the average delay of an intersection overall; however note that the analysis shows varying delay on each leg of the intersection as the commenter notes would be the case with different traffic flows in each leg. The average delay ranges from 6.1 seconds to 12.7 seconds on the individual approach legs for year 2035 (Caltrans, 2011).

B13-66 Gas station and shopping center activities have been considered in the roundabout operations. Please see Response B4-4 and the discussion of Rotten Robbie access and its affect on roundabout operations in Section 2.1.7.1 of the Initial Study. Please see Response B5-1 regarding truck impacts on roundabout operations and Response B13-26 regarding queuing of vehicles.

B13-67 This is not a comment on the impacts of the proposed project. No response is required.

B13-68 Nine of the intersections were converted from a signalized intersection to a roundabout.

B13-69 NCHRP Report 572 states that intersection settings (rural, suburban, and urban) as described in the study were approximate. Therefore, it is not possible to state whether or not SR 116 at Mirabel Road would function as a “typical rural roundabout” compared to the study intersections. The Sonoma County General Plan designates Mirabel Road and the west leg of SR 116 as rural, and the east leg as urban (Figure CT-4d). For converted urban two-way stop controlled intersections, NCHRP Report 572 showed vehicular crashes were reduced overall by 29% and injury crashes were reduced by 81%. For suburban intersections, overall vehicular crashes were reduced by 32% and injury crashes were reduced by 71%.

B13-70 Please see Response B13-1a regarding analysis of the signalized intersection.

B13-71 The commenter correctly describes the alternative route on SR 116 to River Road in Guerneville. Please see Response B5-3 regarding the time required for an oversized vehicle to travel through the SR 116/Mirabel Road intersection under traffic control.

B13-72 Vehicles are required to yield to pedestrians at the crosswalks. According to FHWA’s Roundabouts: An Informational Guide, for crosswalks where pedestrians and bicycles are given priority (as is the case for this project), there is an effect on entry capacity (and therefore free flow of the roundabout). Guidance given in the publication (Exhibit 4-7) shows that for traffic volumes associated with the project and assuming 100 pedestrians per hour, the efficiency reduction factor for capacity is approximately 0.99.
This effect on circular flow rate is not consequential with the projected level of service from the operational analysis.

B13-73 Preliminary designs for the signalized alternative included crosswalks. Please see B13-1a regarding analysis of the signalized intersection.

B13-74 Please see Response B13-1a regarding analysis of the signalized intersection.

B13-75 Please see Response B13-1a regarding analysis of the signalized intersection.

B13-76 Please see Response B13-1a regarding analysis of the signalized intersection.

B13-77 The project would improve operations at the SR 116/Mirabel Road intersection and reduce vehicle idling during the peak period (with an average delay of up to 15 seconds per vehicle in year 2035 compared to 36.3 seconds in the a.m. peak and 17.2 seconds in the p.m. peak for the existing condition; see Table 7 in Section 2.1.7 (Section 2.1.7 of the Initial Study).

The peak hour Level of Service analysis indicates that the roundabout will operate acceptably in the design year of 2035. Queuing was considered in the Level of Service analysis and is described in Response B13-26. Because the roundabout will operate acceptably within its capacity, it will not result in a significant air quality impact. Please see also Responses B13-30 and 13-31.

B13-78 Please see Response B13-1a regarding analysis of the signalized intersection.

B13-79 Traffic noise levels were predicted using the Federal Highway Administration’s Traffic Noise Model (FHWA TNM 2.5). TNM calculates traffic noise levels based on the geometry of the site, which includes the positioning of travel lanes, receivers, barriers, terrain, and ground type. The noise source is the traffic flow, which is input into the program in terms of hourly volumes and speeds of automobiles, medium trucks, and heavy trucks. Vehicle speeds were based on posted speed limits. Noise levels are based on the modeling results, using worst-case traffic conditions (in terms of noise generation). Near the roundabout, loudest-hour noise levels are calculated to decrease by 1 to 3 dBA Leq (h) as travel speeds in the areas would be substantially reduced (Illingworth and Rodkin, 2010).

B13-80 The project does not generate traffic, and the roundabout intersection has been shown to operate at an acceptable LOS for the year 2035 (see Table 7 in the Initial Study), which takes into account expected regional cumulative growth. Caltrans Traffic Forecasting Division staff developed the traffic volume forecasts used in the 2035 traffic LOS analysis presented in this Initial Study using the Sonoma County Travel Model. The project would not contribute to cumulative traffic impacts.

B13-81 Please see Response B2-4.

B13-82 The intersection improvement will facilitate the safe passage of people and goods and reduce vehicle speeds through geometric design at the intersection of Mirabel Road and SR 116. The proposed improvement does not increase the capacity in the conventional sense, such as adding a lane to a roadway, for example. However,
implementing the proposed roundabout will allow for more vehicles to safely pass through the intersection more than any other studied alternative (including the no build and conventional signalized intersection alternatives) and reduces the severity of an accident. Roundabouts are not trip generators and do not cause increased traffic demand. The roundabout's design capacity is slightly more conservative than the Land Use projections in the Sonoma County General Plan 2020 (1-2% vs. 0.88%).

B13-83 An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project’s direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

B13-84 The referenced statement has been removed. Please see Response B13-1a regarding analysis of the signalized alternative.
February 15, 2013

Caltrans District 4
Attention: Valerie Shearer, Senior Environmental Planner
Office of Environmental Analysis, MS8-B
P.O. Box 23660
Oakland, CA 94623-0660

SUBJECT: Highway 116/ Mirabel Road Intersection/ Proposed Roundabout

Dear Ms. Shearer

My name is Wendel Trappe, owner of Canyon Rock Co., Inc. in Forestville, Ca. I have some major concerns regarding the roundabout project. I was in favor of the roundabout when it was much larger, because I know that this intersection needs a left turn lane and the hill cut down to improve safety. When I renewed my 20 year permit at Canyon Rock and paid Sonoma County Two Million dollars to improve the roads around Forestville. I did not realize that it would all be used on a project such as this one.

I think improving Mirabel Road and putting a stop light at River Road and Mirabel Road along with cutting the hill back to add a left turn lane at Mirabel Road and Hwy 116 would improve safety. If this roundabout is built it is going to create huge problems for the truck traffic because they will have to slow down to 5 mph to go through the roundabout, creating congestion and impatient people resulting in more accidents.

In your study I have read that low beds hauling heavy equipment are going to have to get additional permits, to haul through this area. At this time permits are not required. The low beds will also have to block the road while they stop to raise their trailers to be able to maneuver there trailers over the median. This creates a safety hazard. If the Forestville Fire department is responding to a call in downtown Forestville and a low bed is in the roundabout,
the Fire Department will have to go a mile out of their way to reach Downtown Forestville. Making their response time that much longer.

I don’t think that in your study, anyone looked at the time that it takes to raise and lower a low bed to go over big humps or through a small roundabout. I also don’t think they adequately studied the amount of truck traffic that both of the quarries generate during their busy season. All of the roundabouts that they used as examples have way less truck traffic, than this one would get. They might have the same amount of car traffic.

I think before any more time and money is spent on this project the Sonoma County Supervisors should hold a public hearing on the roundabout to find out what the citizens of Forestville really feel about this project. Instead of a small group of supporters. If this project is pushed through we need to study the diesel particulate matter from the trucks and cars as they slow down to a crawl on busy days.

I see a big compromise in safety and air pollution just to satisfy not having a left turn lane or stop light, which I read in your study, is not warranted until year 2035.

Thank You,

Wendel Trappe

Owner of Canyon Rock Co., Inc.
7310 Highway 116
Forestville, CA 95436

CC Efren Carrillo
Response to Comment B14.

B14-1 The inscribed circle diameter for the roundabout is the same as that which was presented at the initial public meeting in February 2009. Since that time, the truck apron width has been increased from 7.5 feet to 12 feet, and the circulating roadway widths (from the curb face to the truck apron) are the same or greater than as was shown in the public meeting exhibit. Please see Master Response 5 regarding the appropriate sizing of the roundabout.

B14-2 $900,000 in quarry expansion fair share contribution fees are being used to fund the project, a portion of which is Canyon Rock Quarry’s fair share contribution, and a portion of which of is Forestville (Blue Rock) Quarry’s fair share contribution.

B14-3 It is acknowledged that shoulder improvements on Mirabel Road and signalization of the River Road/Mirabel Road intersection are also projects for which Canyon Rock paid a fair share mitigation fee to the County as part of the approval of Canyon Rock’s use permit. Those projects are outside of the scope of environmental review for the SR 116/Mirabel Road Intersection Improvement Project. Please see Master Response 6 regarding the prioritization of this project in relationship to other projects in the county. Please see Master Response 3 regarding a discussion of an alternative to add a turn lane at the SR 116/Mirabel Road intersection.

B14-4 Please see Master Response 5 regarding the appropriate sizing of the roundabout for trucks and information regarding the speed at which trucks would be able to travel through the intersection.

B14-5 The comment appears to state that in the existing condition, permits are not required for low beds hauling heavy equipment. This is not accurate. In general, any vehicle with a gross weight over 80,000 pounds, over 65 feet in length or over 8.5 feet wide including the load is oversize. Based on length alone, the vehicle that has been the subject of Canyon Rock’s concerns (the nine-axle quarry transport vehicle or “low bed”) requires a special transportation permit. This would continue to be the case with the proposed project.

The Initial Study erroneously referred to these permits as “encroachment permits.” The text of the Initial Study has been corrected to indicate that they are transportation permits.

B14-6 Please see Master Response 1 regarding passage of emergency vehicles during the time low bed trucks are using the SR 116/Mirabel Road intersection.

B14-7 Please see Response B5-1 regarding the consideration of quarry truck traffic in the traffic forecasting and Level of Service analysis.

The commenter refers to other roundabouts used as examples. Though general studies and information guides for roundabouts have been referenced in the environmental analysis, no direct comparisons have been made to other specific roundabouts.

B14-8 The Sonoma County Board of Supervisors will consider whether to approve the project in a regularly scheduled board meeting, and citizens may address comments to the board regarding the project. Caltrans is the lead agency for CEQA and will consider
whether to approve the environmental document for the project. A public hearing is not required to approve the environmental document.

Please refer to “Public Participation” and “Circulation and Review of the Draft Environmental Document” for a description of the opportunities that the public has been provided to comment on the project.

B14-9 Please see Responses B13-77 and B5-1.

B14-10 A current need for the project has been identified from multiple sources, as described in section 1.2 of the Initial Study, including current unacceptable LOS for the a.m. peak hour for the Mirabel Road intersection approach and a signal warrant analysis. Please see Section 2.1.7 of the Initial Study regarding safety of the roundabout. Please see Response B13-77 regarding effects of the project on air quality.
Comment B15. Trappe, Wendel

Valerie here are some signatures for roundabout in Forestville. We will mail the hard copies.

Thank You

Wendel Trappe
Canyon Rock Inc.
Comment B15. Trappe, Wendel (Attachment, P1)

No roundabout at Hwy 116 and Mirabel Road

Forestville residents respectfully petition our Sonoma County 5th District Supervisor Efren Carrillo, Not to fund the proposed roundabout at Hwy 116 at Mirabel Road. The citizens listed below are opposed to the proposed roundabout for reasons including but not limited to safety, cost, and emergency vehicle response time. Thank You

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B15-1 cont.
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B15-1 cont.
Response to Comment B15.

B15-1 Receipt of the petition in opposition of the roundabout is noted. Please see Master Response 1 and Master Response 4 regarding emergency vehicle response times. Please see Section 2.1.7 of the Initial Study regarding safety of the roundabout.
Comment B16. Wood, Hal

Valerie Shearer
Office of Environmental Analysis, MS8-B
February 3, 2013
P O BOX 23660
Oakland, Ca 94623-0660

Valerie My last letter did not reach you since I forgot OAKLAND in the address so I will E mail both this letter and the one prepared a few weeks past.

I received a copy of your Mitigated Negative Declaration MND. It was sent to me since my office on Mirabel Road is within 200 feet of the project. The MND is very complete and well documented. It appears that your office has covered all items.

My only Question is WHY ANY TRAFFIC CONTROL IMPROVEMENT. This intersection does not need a traffic signal or a round about; maybe in the future when Cal Trans constructs the BY-PASS as mentioned in my earlier letter. Table 7 on page 35 indicates an LOS (Level Of Service) of "F" in 2035, and if this projection is accurate? Then a traffic signal or round about would be warranted in 2035 or earlier especially if Cal Trans also constructed the By-Pass. But now the LOS must be "A" or "B" most of the time and I would estimate over 90% of the time. Let's save the Quarry Mitigation funds for the By Pass.

On the surface it seems that someone knew that the QUARRY MITIGATION FUNDS WERE AVAILABLE AND PROPOSED AN IMPROVEMENT first a Traffic Signal then a Round About. How the Engineer HDR Determined that this intersection warranted an improvement is a mystery to me. I'm sure that Alan Tilden a local retired Traffic Engineer (County of Sonoma & City of Petaluma) would have a hard time determining that this intersection warranted additional control other than the existing STOP. He travels this intersection frequently. And with his experience He must be able to verify my conclusion that the "STOP" WORKS. A PROJECT IMPROVING THE SIGHT DISANCE ON THE WEST 116 LEG, AND MAYBE WIDENING A HWY 116 RIGHT TURN ON TO MIRABEL WOULD BE A SIGNIFICANT SAFETY IMPROVEMENT. There are a number of intersections that have a higher LOS; for instance locally Mirabel and River Road. This intersection carries a number of Hwy 116 west bound vehicles. In fact I believe the County of Sonoma prepared a preliminary design for this critical intersection a few years ago. A STOP T intersection on a FAS County roadway.

Hal Wood CE 11,759
Comment B 16. Wood, Hal (Attachment 1)

HISTORY OF PLANNING IN FORESTVILLE
1950+-/ TO 2000
1950+- California Highway Dept {Cal Trans} approved a Report prepared by a Traffic
Engineering firm "DELUTH CATHHER" which recommended a number of realignments
in the existing hwy now called Hwy 116. All of the realignments from Sebastopol to
Forestville have been completed except the "By Pass". The merchants and concerned
citizens [primarily the C of C] have been discussing this for years. Most of those citizens
on the original 1975 Specific plan committee have left the area and many are resting at
the Forest View Cemetery. The C of C 1975 Specific Plan Goal was: "It shall be the
goal of the Forestville Community to secure a rural living environment through
balanced developmental approach between the man-made and natural
environments"
The FORESTVILLE SPECIFIC PLAN was adopted in December 1975 and published by
the Sonoma County Community and Environmental Services.

Subsequently the Sonoma Planning Dept. (Community and Environmental Services
prepared a real SPECIFIC PLAN in March 1978.
Both the local and County Specific Plans included the "Proposed Road Extension"
[AKA the By- Pass]
The merchants and citizens discussed and bickered off and on regarding the fear or
benefit of this By- Pass. Until it was discovered that the State Highway Dept would wait
forever to by pass Forestville.

In the 1960 thru 1970 The County Dept of Public Works secured Federal funds to
construct River Road along the old Rail Road Right of Way. This improvement has
reduced the traffic on route 116 and has allowed Coastal and Guerneville traffic direct
access to Hwy 101. This project was funded under the Federal Aide Secondary provision.
And is therefore eligible for Cal Trans funds if available and approved.
The Sonoma County Current General Plan also includes the "By-Pass"
Subsequently the County has acquired most of the Right of Way for this "By-Pass".

Now the big question: If and when will the Highway Commission approve funding
for this By-Pass improvement on Hwy 116

Comment: In the 1980's The Director of Public Works Donald B Head submitted a
proposal to Allen Hart the District 4 Engineer for Div of Hwy to switch roads i.e.: County
would improve Mirabel Road to State Standards and transfer to Div of Highway as Hwy
116 along with River Road and the County would assume responsibility for pocket
canyon Road.
These two Engineers had a good idea but no over all authority. Obviously a majority of
west bound hwy116 vehicles now make a right turn onto Mirabel Road and continue east
on River Road to connect with Hwy 116 in Guerneville. This results in delay @ the Stop

The county proposed a traffic signal at Mirabel & River Road in the late 1980 in fact they
may have prepared preliminary plans. [the above dates are approx]

Source Hal Wood Jan 2013
Hal Wood
Valerie Shearer, Senior Environmental Planner
Office of Environmental Analysis, MS8-B
P. O. Box 24623-0660
Notice: Mitigated Negative Declaration
Route 116 / Mirabel Road (CO SON)
SCH # ---------

Valerie I will review the MND but wish to request comments on the Project. I have already submitted questions to the District 4 Engineer and the Design Engineer HDR however at this time no response. As far as the MND I assume the project Engineer can mitigate all aspects except Right of Way take and I’m sure compensation will mitigate those claims. My BIG question is:

WHY ADDITIONAL TRAFFIC CONTROL OTHER THAN THE EXISTING “T” INTERSECTION WITH A STOP SIGN???
The only way Cal Trans may propose a change is if the intersection meets specific traffic warrants then and only then will the Cal Trans Engineer authorize an upgrade to a Signal or if authorized a Round About! From my vantage point where my office is located within 300 feet from the intersection this “T” stop sign works!

Please send me an approved copy of the TRAFFIC SIGNAL WARRANT WORK SHEET As you know The California Manual on Uniform Traffic Control Devices Requires:
1. Traffic counts for a new signal (round about) shall be shown on appropriate traffic signal warrant sheets & a directional traffic count sheet
2. A collision diagram is also required before the District 4 Engineer approves the proposed project.

I assume that the Design Engineer HDR or Cal Trans completed this function prior to authorizing a project.
There is no question that the sight distance improvement in the west leg of Hwy116 is necessary and will certainly improve movement through this “T” intersection.

In conclusion it seems that the traffic control function is premature and should be deferred until Cal Trans constructs the “BY PASS”. I understand that the County has secured most of the R/W for this Cal Trans project. At the time of construction of the BY PASS, the traffic movement will be different ie: a north/south movement of traffic on the new hwy116.

Valerie Please review my Jan 13 2013 1:17PM e mail submittal to the Cal Trans web page.

cc: HDR 15 3rd ST Santa Rosa95401-6204
Sonoma Co PRMD
Sonoma CO Transportation and Public works

Hal Wood CE 11,759
Dear Sir, Enclosed find my e-mail inquiry regarding the proposed improvements on Hwy 116 @ Mirabel Road. I realize that your staff has probably already completed the 50% design drawings; however, I sense concern from a number of residents regarding this improvement at this intersection, especially a large concrete circle.

The weakest element is the westerly sight distance on Hwy 116. It seems that the T-stop has worked reasonably well; especially it allows west/north 116 traffic to proceed to the coast on River Road and also allows the passage of gravel trucks (east/north) with very little impedance. There are very seldom more than 3 vehicles in queue on the south/east travel on Maribel Road.

Hal Wood

Enclosed inquiry via Cal Trans web page
Comment B16. Wood, Hal (Attachment 4)

The following information has been submitted:

name: Hal Wood
email: [redacted]
telephone: [redacted]

Comment: To DISTRICT ENGINEER DISTRICT 4 Status of your project to modify the tee intersection at Mirabel Road and Hwy 116? I reviewed EIR, however no mention that this T intersection with stop sign warranted additional control. (ie: accident frequency, traffic movement etc.) Obviously the Sight Distance on the west link of Hwy 116 needs improvement. I assume Cal Trans is designing the proposed improvements to use this intersection frequently and have not witnessed any recent accidents and find the movement thru this intersection very easy. However the intersection at Mirabel and River Road a (FAS secondary) has high speed traffic and frequent SERIOUS accidents. A majority of west bound 116 traffic uses Mirabel north to a River Road then west to connect with Hwy 116 at Guerneville. Your proposed "roundabout" will impact 3 property owners and may be a problem for the numerous transfer trucks traveling east and turning north on Mirabel Road. Would you please send me your TRAFFIC ENGINEERS REPORT AND JUSTIFICATION OF ADDITIONAL IMPROVEMENTS. It seems evident that any improvements should be deferred until CAL TRANS improves the "BY PASS" for Hwy 116 [DeLath Cather engineers study 1950].

A concerned citizen and former Assistant City Engineer and Traffic Engineer City of Petaluma Hal Wood C. E.

<wdhal@aol.com>
Response to Comment B16.

B16-1 As listed in Table 7, the Mirabel approach to the intersection currently operates at LOS E in the a.m. peak period, and LOS F in the years 2035 for both the a.m. and p.m. peak. It is common to consider peak hour operations in establishing need for a project. In addition, EIRs for the two quarry projects west of the intersection identified a near-term cumulative significant impact to operations at this intersection as the result of the proposed quarry expansions, and the County Board of Supervisors required fair share contributions from the quarry operators as conditions of project approval to mitigate for these impacts (please see Section 1.2 of the Initial Study and Response B13-12).

The mitigation measures and conditions of approval for the quarry projects specify separate fair share contributions to the SR 116/Mirabel Road intersection improvements and to the bypass. The fair share contribution being used on this project is specific to the SR 116/Mirabel Road intersection.

B16-2 Please see Response B16-1. The County, as project sponsor, proposed a project to address the needs identified in Section 1.2 of the Initial Study, including the identification of significant impacts in the quarries’ EIRs.

B16-3 This comment is speculative. No response is required.

B16-4 The project includes sight distance improvements on the west SR 116 leg. The proposed project meets appropriate safety standards for right turn movements from SR 116 onto Mirabel Road.

B16-5 Please see Master Response 6 regarding funding and the prioritizing of this project. It is not within the scope of the CEQA review to respond to comments on other potential projects within the county.

B16-6 The commenter provides background information on the history of the Forestville Bypass. This information is not a comment on the environmental analysis of the proposed project. Though the bypass is not currently funded, it may become an active project in the future depending on the availability of funding and prioritization of the project by the County or transportation planning agencies. Intersection control at the SR 116/Mirabel Road intersection would be a needed aspect of a bypass project. The proposed project is compatible with a future bypass.

B16-7 A signal warrant analysis was prepared by Crane Transportation Group in 2006, which showed that several signal warrants were met for existing and Year 2030 conditions.

The existing intersection did not meet signal warrants for accident occurrence and is therefore not classified as a safety project, therefore collision diagrams are not required. Please see also Response B13-43.

B16-8 Please see Response B16-1 regarding current need for the intersection improvements. It is likely that future construction of a bypass would be a County-sponsored project, and it has not been determined whether the bypass would become the new state route. It is acknowledged that the traffic movements at the SR 116/Mirabel Road intersection would be different with a bypass in place. Therefore, the traffic modeling was performed both
with and without the bypass in place to ensure the roundabout would operate acceptably in both scenarios. Please see Table 7 of the Initial Study.

B16-9 Please see Response B16-1 regarding current need for the project. The project includes sight distance improvements on the west leg of SR 116. Queue lengths for left turning vehicles on the southbound Mirabel approach were determined to be nine vehicles in the AM peak and three vehicles in the PM peak based on the LOS analysis for existing conditions (HDR, 2012).

B16-10 Please see Section 1.2 of the Initial Study which describes the need for the project, including the signal warrant analysis performed by Crane Transportation Group on behalf of the County.

B16-11 Sight distance improvements are included in the project.

B16-12 The improvements are being designed by HDR, Inc, a consultant for the County, with design oversight by Caltrans.

B16-13 Please see Master Response 2 regarding accident data at the existing SR 116/Mirabel Road intersection, and Table 7, Section 2.1.7.1 of the Initial Study regarding the existing and future intersection LOS.

B16-14 Please see Master Response 6 regarding the prioritizing of this project. It is not within the scope of the CEQA review to respond to comments on other potential projects within the county.

B16-15 Please see Section 2.1.5 for a description of impacts to properties from the proposed project.

B16-16 Please see Master Response 5 regarding the appropriate sizing of the roundabout for trucks.

B16-17 Please see Response B16-1 and Section 1.2 of the Initial Study which describes the need for the project.
C. Comments Given to the Court Reporter at the February 16, 2013 Public Meeting

These comments are shown as recorded by the court reporter from the meeting transcript prepared by West Coast Reporters, Inc.

Comment C1. Crinella, Ramona

---oOo---
PUBLIC COMMENTS

RAMONA CRINELLA: The renderings showing the roundabout are deliberately misleading. They still show the Crinella vineyard there when every bit of the vineyard that is shown at drawing will be removed. They are taking 70 feet of vineyard for easement. And there, they're only showing they're taking about ten feet, and it's deliberately misleading.
Response to Comment C1.

C1-1 The photo simulations were prepared to help with analyzing the visual impacts of the project and are not intended to be engineering drawings. Several simulations were prepared for the project. The simulations were intended to be based on a finished surface model of the designed project. Several of the simulations do show the finished surface. The simulation in question (Viewpoint 2) appears not to be based on the finished surface. However, it does give a representative visual impression of how the finished project would look in terms of vegetation and slopes/surfaces. This is the only purpose of the simulations. The Initial Study did not rely on these simulations to determine the right-of-way impacts of the project to the adjoining properties. Scaled engineering drawings (Appendix B) show the area of land needed to construct the project, the trees and vineyard to be removed and other improvements impacted. Impacts to farmland are discussed in Section 2.1.3 of the Initial Study. The commenter is accurate to state that multiple rows of vines would be removed by the project. While vineyard would be removed to construct the cut-slope, the scaled drawings in Appendix B show that remaining vineyard would be located near the top of the new cut slope, which is what is represented in the simulation.
Comment C2. Bordessa, Allison

11  ALLISON BORDESSA: My address is Forestville, California.
12
13  There are documents submitted, a letter, from
14  the Forestville Fire Chief concerning this project and
15  the impact of emergency vehicles being able -- you know,
16  their time is being slowed down. And according to him,
17  he has serious concerns and feels that it would --
18  according to his letter, it would slow emergency response
19  time down on the summation over there, and also as well
20  as the file that was e-mailed to everyone, states that
21  there is no significant impact. Well, according to our
22  local fire chief, that's not the case. There would be an
23  impact and he had serious concerns about it. So that is
24  misleading or incorrect as well.
25  //
Response to Comment C2.

C2-1 Please see Master Response 5 regarding emergency response times once the roundabout is open to traffic.
Comment C3. Flowers, Wendy

WENDY FLOWERS: My address is [redacted]  
I'm a business owner in town and I would like to say that I think this roundabout is utterly ridiculous. It's going to cause utter chaos and several accidents and I don't feel that all of the truckers that run back and forth up this highway should have to put up with trying to get around a roundabout. It is just the most insane thing.

I've lived here all my life, so I'm not some newcomer and there's nothing wrong with the way the town is now. That is not a -- it's not an accident-causing spot. There are not a lot of deaths there. And I feel if Caltrans thinks they should put something there, maybe they should try a stop sign or a stoplight.

Thank you.
Response to Comment C3.

C3-1 Safety benefits of the roundabout are described in Section 2.1.7, including statistics from studies of roundabouts showing a reduction in crashes from intersections that were converted to a roundabout from other intersection types. As described in Section 2.1.7, measures have been included in the project to educate drivers, pedestrians, and bicyclists about how to navigate a roundabout.

C3-2 Please see Master Response 5 regarding the appropriate sizing of the roundabout for trucks.

C3-3 Please see Master Response 2 regarding accident data for the existing SR 116/Mirabel Road intersection.

C3-4 Please see Master Response 3 for discussion of the feasibility of a stop sign on 116. Please see Section 1.4.3.1 of the Initial Study and Response 13-1a for discussion of why a signal alternative was not carried forward for consideration.
Comment C4. Renfro-Cross, Julie

JULIE RENFRO-CROSS:
Address: [redacted]
E-mail: [redacted]

After reviewing the architect’s design feature, I see that there's much more safe travel for people, cars, bicyclists. It looks so much cleaner. Nice lines. Professionally done. I'm for it.

///
Response to Comment C4.

C4-1 The commenter's support of the project is acknowledged.
Comment C5. Brunelle, Patricia

1. PATRICIA BRUNELLE: I live at [REDACTED] and I've lived here since 1986, so I'm, like, considered new. And I'm very much for the roundabout existence. I've been for it for a long time. I'm glad now the County agrees to do it. I think it will save a lot of gas and energy and I think the idea of combining rocks and trees is pretty, and I want it done as soon as possible.

2. And I have probably turned on that intersection about fifty-thousand times, and I think it will be a lot safer now with the intersection being made lower. I understand to put in the roundabout they're going to take it down twelve feet, and that alone is great, because I have come up from the west to the east and been surprised, not in a good way.

Response to Comment C5.

C5-1  The commenter’s support of the project is acknowledged.
CARY BUSH: My name is Cary Bush. My address is

It's exciting to see the hard work in process of the community pulling together a plan that focuses on a strong identity in a positive direction. I feel like the project would be an asset to the community, not only in terms of its aesthetic quality, but also for the health and safety of the downtown. I truly look forward to seeing this project come to fruition.
Response to Comment C6.

C6-1 The commenter’s support of the project is acknowledged.
Comment C7. Wood, Doug

3  DOUG WOOD: And I don't want the roundabout. I've lived in
4  Forestville for over 50 years and I don't know anybody
5  that I've talked to, and I know a lot of people, that
6  wants a roundabout. There's a few people that have moved
7  here recently that want it. A couple people have pushed
8  it that -- one guy is selling his house, the other person
9  is already gone. We didn't know about this, that it was
10  going to happen. People that wanted it knew about the
11  last meeting. People that didn't want it didn't know
12  about it until it was shoved down our throats.
13
14  So what do we do to -- this all I can do, right, say I don't want it, and that's it?
15
16  My e-mail backhoe6@aol.com. And if there's any
17  way I can do anything to not have a roundabout I want to
18  do that. I think the traffic studies were a little bit
19  biased.
20
21  And I don't have a problem. I drive -- I'm a
22  contractor and I have heavy equipment and I hall around
23  trailers and I have no problem coming in and out of
24  there; up the hill down the hill. My shop is on the
25  bottom of that hill. My house is on the top of the hill.
26  I go back and forth all the time with no problem. The
only time there's any issue is in the morning when
school's in session, fifteen minutes, you have to wait to
get out. Very short wait. No longer than a traffic
light. You still wait that long with it's red. You
don't wait more than five minutes on the worst day.
That's just in the morning for a brief period. The rest
of the day, smooth sailing.

So we're ready to just -- If you put in a left
turn lane, everybody would be happy. Trucks could make
it. Fire trucks. Somebody needs to talk to the fire
department. They have a concern about their fire trucks
going through there when people pull over on the side.
I'm done. Thank you.

I've got a new safety concern. Okay. When they
put this in, anybody that wants to go to the gas station
to get fuel, anything in a big -- in a truck or a truck
and trailer has to come in heading west, they won't be
able to head east an get into it from the roundabout.
They won't able to come in.

Like right now, we can turn in of Mirabel, you
can make a turn and come in. So with that roundabout
you're going to have to go down and turn around, so
they're going to lose all their business, the gas
station, from trucks, they're not going to get it.

For myself, personally, I'll have to start using
Comment C7.  Wood, Doug, P. 3

1        Covey Road.  So a lot of traffic, trucks and trailers, to
2        get into the gas station is going to have to go up Davis,
3        right next to the high school, turn right through all the
4        kids that are trying to get out at school, down Covey
5        Road and then come back to Forestville to turn right into
6        the gas station.  And it's unacceptable.  And it's
7        dangerous with all the kids getting out the school to
8        have trucks and trailers driving by the school when you
9        don't have right now.  You'll be pushing them all there
10       if they want to get gas.  Just a little story.
Response to Comment C7.

C7-1 The commenter’s opposition to the project is acknowledged.

C7-2 Public participation opportunities for the project are described in Chapter 3. Notices of the February 26, 2009 public meeting were mailed to adjacent property owners (97 addresses), local organizations and local papers. In response to the notices, the following electronic newspapers ran articles about the proposed meeting or posted information on their event calendars prior to the meeting: Sonoma West Times & News and the West County Gazette. The Press Democrat, Sonoma West Times & News and the West County Gazette also ran follow-up articles about the meeting in their on-line versions.

On September 21, 2010, the County mailed a “Notice of Project to Receive Environmental Review” to property owners within 0.5 mile of the project (390 addresses) as well as to local organizations and agencies. This notice identified the roundabout as the proposed project and included a project description and a layout drawing of the roundabout. The County received 14 responses to this notice.

Records confirm that the commenter’s stated address is not on these project mailing lists.

C7-3 The public may submit comments on a project to Caltrans or the County at any time, though the official comment period of January 18-February 19 reflected the set period of time in which the public could comment on the environmental document for the project and have their comments addressed as part of the legally-mandated CEQA environmental review process. Following consideration of public comment, Caltrans will determine whether to adopt the environmental document (Mitigated Negative Declaration) for the project and approve the project. At that time, if the project is approved, Caltrans is required to file a Notice of Determination for the project, which initiates a 30-day statute of limitations on legal challenges to the Mitigated Negative Declaration. As the sponsor and funding agency for the project, the County Board of Supervisors must also decide whether to approve the project.

C7-4 Please see Response B16-1.

C7-5 A left-turn lane would not address the existing or future anticipated delays (from regional growth and planned or approved development) at the intersection, and therefore, would not fulfill a majority of the project’s purpose identified in Section 1.2 of the Initial Study.

C7-6 Please see Master Response 5 regarding appropriate sizing of the roundabout for trucks and emergency vehicles.

C7-7 Please see Master Response 4 regarding emergency response times once the roundabout is open to traffic.

C7-8 All vehicles including trucks will still be able to use the Rotten Robbie gas station driveway on SR 116 to enter the gas station while heading east, with the exception of peak hours when a left turn into the driveway will be prohibited. Continued access to the gas station during these times will be from the Mirabel Road entrance. Please see also Response B5-4.
The commenter is correct that vehicles and trucks with trailers heading south on Mirabel will not be able to make a left turn into Rotten Robbie from southbound Mirabel Road. However, vehicles and trucks will be able to continue south, travel around the roundabout, and enter the SR 116 driveway. In peak hours, they would be able to travel around the roundabout (making a u-turn) and head back north on Mirabel to turn right into the Rotten Robbie driveway. Modeling of truck turning movements indicates these movements can be accommodated. This route is more efficient than traveling down Davis Road, to Covey Road and back around on SR 116. Impacts to neighborhood streets and the high school would be less than significant.
Comment C8. Hardcastle, Lucy

LUCY HARDCASTLE: 

I've been an early advocate for roundabouts because the thought of having quarry trucks stop at stoplights and having to gear up and use all of that energy and diesel fuel to go through a traffic light, you know, it seemed ridiculous to me because it's -- I felt, I initially viewed the EIR on diesel particulates when the County was agreeing to expand -- for quarry expansion and got to see the danger that is imposed to have a bunch of quarry trucks stopped in traffic in downtown Forestville.

So that's why I'm a strong advocate and I believe that the roundabout should be larger to accommodate that. We're a quarry town. But that's -- it's definitely a good idea and people will get used to it and end up liking it it.
Response to Comment C8.

C8-1  The commenter’s support of the roundabout is acknowledged.

C8-2  See Master Response 5 regarding the appropriate sizing of the roundabout for trucks.
And I'm going to be impacted by this project. I believe that a left-hand turn lane at the intersection on Mirabel would be more beneficial than a roundabout. A roundabout is going to back up the gravel trucks coming up the hill and thereby creating time for me to get out of my driveway and enter the road. Possibly that it's dangerous for pedestrian trying to cross the roundabout in the area that they're designated. There's no signs warning of pedestrians crossing and I think they're at risk -- they're own risk trying to cross. And so I definitely think that there are better alternatives. More studies need to made. There's better alternatives than a roundabout.
Response to Comment C9.

C9-1 Please see Response C7-5 regarding the alternative to put a left-turn lane on eastbound SR 116. Queue lengths (vehicle back-ups) on SR 116 at Mirabel Road with the roundabout during the worst case (a.m. peak period) would be approximately 36.4 feet in the year 2035 (Caltrans, 2011). Hidden Lake Road is over 500 feet from the SR 116/Mirabel Road intersection, and vehicle queues would not block Hidden Lake Road.

C9-2 Please see Response B6-3.

C9-3 Please see Section 1.4.3 regarding a discussion of alternatives considered in preliminary stages of the project.
Comment C10. Trappe, Gwen

GWEN TRAPPE: My name is Gwen Trappe, I am not -- I would like to see the plans go back to the original plan. They've shrunk it down because of property concerns or whatever, but it really needs to go back to the original plan that it bigger; it would be easier for trucks and, you know, emergency vehicles to be get through without the worry of, you know, traffic. I'm not -- I'm opposed to roundabouts, but if we're going to have to have one it needs to be bigger.
Response to Comment C10.

C10-1 Please see Response B14-1 and Master Response 4 regarding appropriate sizing of the roundabout for trucks and emergency vehicles. Please see also Response B14-1 regarding early designs for the roundabout. Please see also Master Response 5 regarding response time for emergency vehicles once the roundabout is open to traffic.
Comment C11. Shaver, Karen

7 KAREN SHAVER:  
8 I -- we're just against it. We don't think it's  
9 going handle the fire department equipment for the big  
10 rigs coming through town. We don't think the population  
11 can handle the emergency situations. Once they're in it,  
12 they'll be confused. I think a lot of the of seniors out  
13 this way won't understand how to operate through it. We  
14 just don't think it's big enough to facilitate the big  
15 equipment that comes through here.
Response to Comment C11.

C11-1 Please see Master Response 5 regarding appropriate sizing of the roundabout for trucks and emergency vehicles.

C11-2 Please see Master Response 4 regarding response time for emergency vehicles once the roundabout is open to traffic.

C11-3 Please see “Oversize Vehicles” in Section 2.1.7.1 and Response B5-3 regarding the transport of oversize equipment through the roundabout.
Comment C12. Trappe, Claire

CLAIRE TRAPPE: I don't think Forestville needs a roundabout or a signal. I think it's fine the way it is. You know, I'm worried about emergency situations, and if this roundabout doesn't work, then what do we do, because I don't think it is going to work.

Thanks.

///
Response to Comment C12.

C12-1 The need for the project is described in Section 1.2 of the Initial Study. Please see also Response B16-1.

C12-2 Please see Master Response 5 regarding appropriate sizing of the roundabout for trucks and emergency vehicles. Please see Master Response 4 regarding response time for emergency vehicles once the roundabout is open to traffic.
Comment C13. Wood, Hal

HAL WOOD: My question is I'm not against the roundabout, but I'm against the process. I don't believe that that particular intersection warrants any traffic control other than a stop sign. And the California traffic code, which the engineer, the chief engineer of District 4, Daniel Ash, should -- well, he should be required to sign off on all improvements on state highway.

The question is: Did he even see the traffic report because it does not warrant anything other than a stop sign and that's what's there. The regulations say that there shall, not will, shall be improvements only — only if it warrants it, otherwise a stop sign is — otherwise the stop sign is adequate. If you have warrants greater than, I think, LOS, level of service, of F, well, then maybe you can -- I think that's where you warrant traffic improvements. It could be traffic signals. It could be a roundabout.

But I don't think -- well, I'm sure -- I was a traffic engineer years ago. I would put my license on it that that particular intersection does not warrant a traffic signal or a roundabout at this time. And the stop sign is quite adequate and it works very well.
Response to Comment C13.

C13-1 Please see Response B16-1 regarding the need for the project based on current traffic conditions. Please see Response B16-7 regarding the signal warrant analysis.
DENISE WOOD: And my concern with the roundabout is I don't believe that it's big enough to support the -- the trucks and trailers or the emergency vehicles. There's a big concern that it -- cars are going to panic and block the roundabout and so it will stop the emergency vehicles from proceeding. I would rather see the bypass put in place, and I think a left turn lane would be sufficient.

And what was my other concern. I just have concerns of who's going to maintain it. And what else. I can't remember. I think that's about it.

Thank you.
Response to Comment C14.

C14-1 Please see Master Response 5 regarding appropriate sizing of the roundabout for trucks and emergency vehicles.

C14-2 Please see Master Response 4 regarding response time for emergency vehicles once the roundabout is open to traffic.

C14-3 The proposed project takes into account potential future construction of the Forestville Bypass. Though the Forestville Bypass is not currently funded and the County is not actively pursuing design or environmental review at this time, it may become an active project in the future depending on the availability of funding and prioritization of the project by the County or transportation planning agencies. The bypass would require traffic control at the SR 116/ Mirabel Road intersection, therefore, this project is compatible with the bypass.

C14-4 A left-turn lane would not address the existing or future anticipated delays (from regional growth and planned or approved development) at the intersection, and therefore, would not fulfill a majority of the project’s purpose identified in Section 1.2 of the Initial Study.

C14-5 Caltrans and the County would have a Cooperative Agreement for maintenance of the project. Caltrans would be responsible for the roadway and related grading and drainage, the retaining wall structure and safety lighting. The County would be responsible for landscaping/plant establishment, graffiti removal, sidewalks, and pedestrian lighting.
Comment C15. Trappe, Wendel

14 WENDEL TRAPPE: I live at [redacted]. And my name is spelled W-E-N-D-E-L T-R-A-P-P-E.
15 Well, my comment is: I want to see if they've taken into consideration, I have a quarry and I'm concerned with the big low-bed trucks coming in and out of our quarry and blocking the intersection, if they're going to let us have permits to do that. And my concern is when the traffic is backed up, you know, the traffic jam. And they talk about the emissions, the trucks sitting and all that; my concern is that.
16 And the fire -- I'm also on the fire department with Forestville. If that truck is hung up or stops at an intersection for five to ten minutes while he jacks up his trailer to get over the curbs and stuff, what if there's an emergency in downtown Forestville? That fire truck has to leave the fire station and go all the way up around by El Molino High School to come back to downtown. And I think that's a major safety concern, you know, for the community.
17 And I think there's other alternatives they could have done. I think if they would have cut the hill down and, you know, put a left turn lane in and tried that and did the groundwork to make it big enough for this if they ever wanted to add it. But I think they could -- it's sure cheaper. They're saying it's more expensive, but I find that hard to believe.
And then I want to know what they're going to do; I ran some studies on this, on this CAD systems on the trucks on going around this, and I'm concerned with the center circle. Some of these trucks are going to ride up on that center circle, even the standard trucks and they're talking about putting rocks in the middle of it and different things. I think they got to look at that aspect of it.

And I think they also have to look at the speed. They're talking about twenty miles an hour through this thing. I think it's going to have to be more like ten miles an hour to be safe. If any of these people that have looked at this have lived in west Sonoma County, they know that everybody wants to get there first and people are not going to let people in. And with a speed slow enough, maybe there won't be accidents. But if they make the speed posted 20, 25 miles an hour, there's surely going to be accidents. People are not going to let in trucks. Trucks are going to get mad and not let in cars. I think they're really going to have to look at the sign system.

I was in Europe a couple of years ago and it's very interesting to look at the different countries and how they put different signs in their roundabouts, which are a lot larger than this. And they instruct the drivers how to go around it and speeds and which way and what to do, where this looks like it's kind of open and
it's going to be a free-for-all. And I hope the County
is ready for that and I hope they have a plan if this
doesn't work, like in some places like the City of
Livermore that had to take some out, if they have a plan
of taking this out and doing something different.

Thank you.
Response to Comment C15.

C15-1 Please see Response B14-5.

C15-2 Please see Responses B13-26 regarding the expected peak-hour queuing with the roundabout and B13-77 regarding air quality.

C15-3 Please see Master Response 1 regarding passage of emergency vehicles during the time low bed trucks are using the SR 116/Mirabel Road intersection.

C15-4 A left-turn lane would not address the existing or future anticipated delays (from regional growth and planned or approved development) at the intersection (see Table 7 of the Initial Study), and therefore, would not fulfill a majority of the project’s purpose identified in Section 1.2 of the Initial Study. Please see also Master Response 3. No statements have been made regarding cost of sight distance improvements and a left turn lane. The Initial Study compares costs of a roundabout to a traffic signal. Please see Section 1.4.3.1 of the Initial Study and Response B5-7.

C15-5 Please see Master Response 5 regarding appropriate sizing of the roundabout for trucks and emergency vehicles.

C15-6 Please see Master Response 5 regarding the regarding the speed at which trucks would be able to travel through the intersection. The posted advisory speed within the roundabout circulatory roadway would be 15 mph for all vehicles, and has been set to meet safety standards.

C15-7 The commenter states that drivers will not let in other vehicles. Roundabouts are designed such that the vehicles within the circulatory roadway have the right-of-way. Therefore, vehicles within the circulatory roadway should not slow to let in other drivers. Drivers on the approaches would wait for acceptable gaps to enter the circle. The LOS analysis for the project indicates that the roundabout will operate at an acceptable LOS with the expected traffic volumes, even considering growth to year 2035 (see Table 7 of the Initial Study).

C15-8 The roundabout would include appropriate signage directing traffic on how to navigate the roundabout.

C15-9 The roundabout has been studied from a geometric and operational standpoint in the following documents, and it has been determined that it would operate acceptably: Roundabout Report of Conceptual Approval, Caltrans 2009; Roundabout Report of Conceptual Approval Supplemental Memo, Caltrans 2011; Draft Project Study Report-Project Report, Caltrans, 2013.
JANET ZAGORIA: My address, 

So I really like what's going on here. I see that it will be great for safety and it will look really good. That's one of my prime things. I think it will really class up Forestville, but I also like that the cars won't be idling at the corner, and it will create a sort a safety zone. I'm just hoping people won't be crawling on the rocks, but, you know, they'll crawl anywhere.

And I also like the lowering of that hill, because even -- even if we did nothing, that hill is really dangerous to try to pull out from Mirabel to turn left.

So I think it's great. Thank you.

(End of Public Comments.)

---oOo---

C16-1

C16-2

C16-3
Response to Comment C16.

C16-1 The commenter’s support of the project is acknowledged.

C16-2 It is not possible to entirely prevent people from trying to access the roundabout center island. However, the shared pathway and designated crosswalks would help to direct people around the outside of the roundabout. Planting of shrubs would also discourage people from attempting to access fixed objects in the center of the island.

C16-3 Please see response C16-1.
Below is a summary of the required permits, and environmental commitments that must be incorporated into the PS&E, for this project. Please contact zachary.gifford@dot.ca.gov for further information.

<table>
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<th>PERMITS AND AGREEMENTS</th>
<th>Ref.</th>
<th>NSSP Y/N</th>
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<td>Implement Construction Site BMPs.</td>
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<td>Develop and implement a SWPPP including 1) standard temporary erosion control measures to reduce sedimentation and turbidity of surface runoff from disturbed areas; 2) personnel training; 3) scheduling and implementation of BMPs throughout the construction phases and seasons; 4) identification of BMPs for non-storm water discharges such as fuel spills; and 5) monitoring throughout the construction period.</td>
<td>ED, p.57</td>
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<td>Implement Permanent Design Pollution Prevention BMPS.</td>
<td>ED, p.57, 58</td>
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<td>County/Design/Storm Water</td>
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<td>Implement Permanent Treatment BMPs Treatment BMPs to the Maximum Extent Practicable. Currently proposed treatment BMPs include bioswales at the west end of the project and south of the fourth leg of the roundabout, and tree well filter inlets. Treatment BMPs would be selected following further study in the design phase, and may include infiltration devices, biofiltration strips, bioswales, and tree well filters.</td>
<td>ED, p. 58</td>
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Geology/Soils
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<td>The project would be constructed in accordance with all applicable Caltrans standards and regulations, and would be designed for the Maximum Credible Earthquake (MCE). All construction activities would adhere to current engineering practices and recommendations provided by a Geotechnical Engineer/Engineering Geologist.</td>
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<td>A licensed engineer and/or their representative, experienced in the design and construction of soil nail walls, would monitor the soil nail wall construction along SR 116. As the soil nail wall is constructed from the top down, the licensed engineer and/or their representative would observe the exposed material in the cut face and cuttings from the soil nail drill holes to verify that the conditions are consistent with those assumed during design. If the conditions exposed in the excavation are weaker than assumed in the design, the soil nail wall design would be modified such that the design meets the minimum factors of safety specified in the geotechnical report.</td>
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<td>The contractor would be prepared to divert or pump seeping groundwater from the slope area during construction activities if encountered.</td>
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<td>Temporary and permanent measures would be implemented to minimize the impact of erosion, including, but not limited to, appropriate vegetative cover of disturbed areas, to stabilize soil against wind and water erosion, and construction of erosion resistant drainage structures to collect surface water and divert it away from slopes to suitable discharge points. Erosion control would be applied and landscape planting would be established as soon after grading as possible.</td>
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<td>Construction activities would comply with applicable occupational safety and health standards, rules, regulations, and orders, as well as Caltrans Standard Specifications for occupational safety and health and excavation safety.</td>
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<td>Implement the Paleontological Mitigation Plan, which includes oversight by a qualified professional paleontologist, worker training, construction monitoring and sampling, and a data recovery plan for the recovery, preparation, cataloguing and transfer of significant paleontological resources to a recognized, nonprofit paleontological specimen repository with a permanent curator, such as a museum or a university</td>
<td>ED, p. 67-68</td>
<td>County/Const.</td>
<td>Const.</td>
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<td>The Project Paleontologist would annotate construction plans to show Environmentally Sensitive Areas (ESAs) for paleontological resources</td>
<td>ED, p. 67</td>
<td>County/Design/Geo.</td>
<td>Design</td>
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<td>Hazardous Materials Investigation/Treatment</td>
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<td>Testing for ADL would be performed at the Plans, Specifications and Estimates (PS&amp;Es) stage prior to project construction. If ADL is found, special handling of the contaminated soil would be required and would include implementing a Health and Safety Plan. Soil that is disturbed by the project would be handled and disposed of in accordance with all local, State, and Federal requirements.</td>
<td>ED, p. 70</td>
<td>County/Design/Const</td>
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<td>Air Quality and GHG</td>
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<td>The contractor would develop a dust control plan documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.</td>
<td>ED, p. 76</td>
<td>County/Const.</td>
<td>Const.</td>
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<td>All exposed surfaces (e.g., parking areas, staging areas, graded areas, and unpaved access roads) would be watered two times per day, or more frequently as necessary, to minimize dust. (Alternatively, dust suppressive materials may be used.)</td>
<td>ED, p. 76</td>
<td>County/Const.</td>
<td>Const.</td>
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<td>The contractor would enclose, cover, water twice daily, or apply nontoxic soil binders to exposed stockpiles (dirt, sand, etc.).</td>
<td>ED, p. 76</td>
<td>County/Const.</td>
<td>Const.</td>
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<td>All haul trucks transporting soil, sand or other loose material off-site would be covered.</td>
<td>ED, p. 76</td>
<td>County/Const.</td>
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<td>All visible mud or dirt track-out onto adjacent public roads would be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.</td>
<td>ED, p. 76</td>
<td>County/Const.</td>
<td>Const.</td>
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<td>All vehicle speeds on unpaved roads would be limited to 15 mph.</td>
<td>ED, p. 76</td>
<td>County/Const.</td>
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<td>All roadways, driveways, and sidewalks to be paved would be completed as soon as possible.</td>
<td>ED, p. 76</td>
<td>County/Const.</td>
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<td>Idling times would be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2465 of California Code of Regulations [CCR]). Clear signage would be provided for construction workers at all access points.</td>
<td>ED, p. 76, 117</td>
<td>County/Const.</td>
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<td>All construction equipment would be maintained and properly tuned in accordance with manufacturer’s specifications. Use low-sulfur fuel in all construction equipment as provided in California Code of Regulations Title 17, Section 93114.</td>
<td>ED, p. 76, 117</td>
<td>County/Const.</td>
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<td>A publicly visible sign would be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person would respond and take corrective action within 48 hours. The Air District’s phone number would also be visible to ensure compliance with applicable regulations.</td>
<td>ED, p. 76</td>
<td>County/Const.</td>
<td>Const.</td>
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<td>The contractor would install stabilized construction entrances and/or wheel washes at project access points to minimize dust and mud deposits on roads affected by construction traffic.</td>
<td>ED, p. 77</td>
<td>County/Const.</td>
<td>Const.</td>
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<td>The contractor would install permanent erosion control as soon as practical after grading to reduce wind-blown particulate in the area.</td>
<td>ED, p. 77</td>
<td>County/Const.</td>
<td>Const.</td>
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<td>Route and schedule construction traffic to avoid peak travel times as much as possible, to reduce congestion and related air quality impacts caused by idling vehicles along local roads.</td>
<td>ED, p. 77, 117</td>
<td>County/Const.</td>
<td>Const.</td>
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<td>Incorporate the use of energy efficient lighting, such as LED lights to the extent feasible.</td>
<td>ED, p. 117</td>
<td>County/Design</td>
<td>Design/ Const.</td>
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Noise
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<tr>
<td>ED, p. 81</td>
<td>County/Const.</td>
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<td>ED, p. 82</td>
<td>County/Const.</td>
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<td>ED, p. 82</td>
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<td>ED, p. 82</td>
<td>County/Const.</td>
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<td>ED, p. 54</td>
<td>County/Const./Cultural</td>
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Comply with the provisions set forth in Section 14-8.02 of Noise Control, included in the 2010 Caltrans Standard Specifications.

The construction contractor would designate a noise disturbance coordinator who would be responsible for responding to complaints regarding construction noise. The coordinator would determine the cause of the complaint and ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the noise disturbance coordinator would be posted conspicuously on construction site fences, and would be included in the notice sent to nearby residents regarding the project's schedule.

Construction would occur between 7:00 a.m. and 7:00 p.m. on weekdays, and between 9:00 a.m. and 5:00 p.m. on weekends. Exceptions to the work hours may be necessary for limited periods in order to minimize lane closures on SR 116 (such as during activities to conform road and driveway grades in the vicinity of Hidden Lake Road), or to prevent an emergency or respond to an existing emergency. Other than work to prevent or respond to an emergency, exceptions to the construction hours would require prior approval by the County. Residents would be notified five days in advance of work outside the specified hours.

Prohibit unnecessary idling of internal combustion engines within 100 feet of residences.

Staging of construction equipment within 200 feet of residences would be avoided, and all stationary noise-generating construction equipment, such as air compressors, portable power generators, or self-powered lighting systems would be located as far practical from noise sensitive residences.

**ESA/Archaeological**

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find.
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<td>ED, p. 54</td>
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**If human remains are discovered,**
State Health and Safety Code Section 7050.5 states that further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted.
Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission (NAHC) who would then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains would contact Emily Darke at (510) 622-1073 or Emily_Darke@dot.ca.gov so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

**ESA/Biology**

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<th>Ref.</th>
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<td>ED, p. 86</td>
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**Caltrans would require the contractor to install temporary plastic mesh-type construction fencing (Tensor Polygrid or equivalent) that is a minimum of four-feet tall between the construction zone and trees to be retained to prevent inadvertent damage. Fencing would be located at or outside tree drip lines. Fencing locations would be determined in consultation with PRMD and shown on plans when final design of the project is complete.**

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**No storage of oil, gasoline, chemicals or other potentially harmful substances would occur within the drip line of any tree, or any other location on the site from which such substances might enter the drip line.**

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**Following construction, all construction equipment and materials would be removed from the staging area.**

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<td>ED, p. 86</td>
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**All areas within the staging area where soil has been exposed would be treated with erosion control BMPs to prevent loss of topsoil.**

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<th>Ref.</th>
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<td>ED, p. 86</td>
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<td>ED, p. 86</td>
<td>County/Const.</td>
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<tr>
<td>Tree removal and pruning would be allowed where needed, but would be limited to that necessary to construct the project. Wherever feasible, vegetation would be tied back in lieu of cutting. Pruning activities would be conducted in conformance with American National Standard Institute (ANSI) 2006 and International Society of Arboriculture (ISA) 2006 standards.</td>
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<td>ED, p. 86</td>
<td>County/Const.</td>
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<td>When excavating within the root zones of trees to be retained, care would be taken to minimize damage to the tree root system. Whenever feasible, excavation near trees using heavy equipment would be carried out by pulling the bucket or blade away from the tree (parallel to the roots) to minimize cracking and damaging of roots left in the soil. As roots are exposed during excavation, those that are one inch in diameter or greater would be cut cleanly at the surface of the excavation using hand tools. Roots would be cut progressively as they are exposed until the finish grade of the excavation is reached.</td>
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<td></td>
<td>ED, p. 87</td>
<td>County/Design/Const.</td>
<td>Design/ Const.</td>
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<tr>
<td>Caltrans would require the contractor to install temporary plastic mesh-type construction fencing (Tensor Polygrid or equivalent) that is a minimum of four-feet tall between the construction zone and remaining street trees to prevent accidental disturbance. Fencing locations would be determined in consultation with PRMD and shown on plans when final design of the project is complete.</td>
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To mitigate for 27 native trees, the County would plant a minimum of 49 trees. Oak trees would be replaced with oak trees, to the maximum extent feasible. Other native species would be replaced with the same species, or native species suitable to the site. Trees would be replanted within one or more of the following locations: in the center island of the roundabout; within right-of-way near the top of the roadway cut-slope on the south side of SR 116; around the parking area at Sunset Beach Regional Park in cooperation with Son. Co. Regional Parks; along the future West County Trail alignment, in cooperation with Son. Co. Regional Parks and private developers; or on private property along the frontage of SR 116 within the project limits, if desired by the property owners. (For each tree planted on private property, a duplicate tree would be planted at Sunset Beach Regional Park to ensure the total required number of trees remain even if a private property owner later removes the tree. These duplicate trees would be in addition to the minimum planting requirement.)

Trees would be planted in the late fall/early winter following construction to take advantage of seasonal rains, and would be maintained (i.e., watering, herbicide protection, weed control) for three years after installation, with a minimum survival requirement of 50% at the end of the maintenance period.
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The construction boundary would be marked with high visibility fencing a minimum of 48 inches tall, and all natural areas outside the construction zone would be designated as Environmentally Sensitive Areas (ESAs). Delineating the ESA would be designated as the “First Order of Work” in the project specifications. Location of the ESA fencing would be determined by a qualified biologist in cooperation with PRMD staff and shown on the project plans as a thick, solid black boundary. All work would be contained within the construction zone, and no work would be allowed in any area designated as an ESA. All fencing would be removed upon project completion.

Continuous silt fence would be installed along the construction boundary to prevent sediment or other substances from exiting the work area. The silt fence would be used in conjunction with the ESA fencing.

Spill control absorbent material would be in place under any construction equipment being stored, refueled, or maintained in the staging area.

Twenty-four hours prior to the start of construction, a qualified biologist would survey the work area and move any turtles to suitable nearby habitat. Exclusionary fencing would be installed along the southern work limits and around the staging area to prevent turtles from entering the work area. Location of the exclusionary fencing would be determined by the qualified biologist in cooperation with Sonoma County PRMD staff and shown on the project plans. (Exclusionary fencing may be silt fence as described in Section 2.3.2, Wetlands and Other Waters).

Construction workers shall be briefed on the potential presence of western pond turtle in work area and be informed of avoidance measures to be employed. If turtles are found in the project limits, work would be temporarily stopped in the area of the find until a qualified biologist moves the individual(s) to suitable habitat away from the project.
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<td>Prior to tree planting at the Sunset Beach planting mitigation site, a qualified biologist shall survey the area for pond turtle nests. Identified nests would be avoided.</td>
<td>ED, p 95</td>
<td>County</td>
<td>Post-Const.</td>
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<td>A qualified biologist will conduct a pre-construction survey for roosting bats. Unoccupied trees will be removed using a two-phase tree removal system. Establish buffer around occupied maternity roosts as a measure to protect maternity roosts. The “take” of individuals (e.g., direct mortality of individuals, or destruction of roosts while bats are present) is prohibited. If a non-breeding hibernacula is found in a tree scheduled to be removed, the County would apply for a MOU with CDFW and the bats would be safely evicted within the guidelines of the MOU under the direction of a qualified bat biologist. Tree removal would occur no later than the following day. Trees being used as a night roost would only be removed during daylight hours, at least one hour after sunrise and one hour before sunset using the two-phase removal system.</td>
<td>ED, p. 96</td>
<td>County/Const./Bio</td>
<td>Const.</td>
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<td>Caltrans would only allow vegetation to be removed from the project site after August 31, and before February 15 of the following year, when bird nesting is most likely avoided, unless a qualified biologist has inspected the site and determined that there are no nesting birds present.</td>
<td>ED, p. 96</td>
<td>County/Const./Bio</td>
<td>Const.</td>
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<td>If work is conducted during the nesting season, pre-construction surveys for nesting birds within the project site (including staging area) would be conducted no more than three days prior to tree removal/ground disturbing activities. If an active nest is found, a qualified biologist, in conjunction with CDFG and the USFWS, shall determine the appropriate buffer size and delineate the buffer using ESA fencing, pin flags, yellow caution tape, and etc. During construction, the qualified biologist would conduct regular monitoring (at agency approved intervals) to evaluate the nest(s) for potential disturbances associated with construction activities. Construction within the buffer would be prohibited until the qualified biologist determines the nest is no longer active. If an active nest is found after the completion of the pre-construction surveys and after construction begins, all construction activities would stop until a qualified biologist has evaluated the nest and erected the appropriate buffer around the nest. If establishment of the buffer is not feasible, CDFG and the USFWS would be contacted for further avoidance and minimization guidelines.</td>
<td>ED, p. 96</td>
<td>County/Const./Bio</td>
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<td>Require the contractor to regularly inspect and clean construction equipment to prevent spread of plant materials and/or seeds.</td>
<td>ED, p. 102</td>
<td>County/Const.</td>
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<td>Erosion and sediment control seeding mix shall not contain species listed as noxious weeds.</td>
<td>ED, p. 102</td>
<td>County/Const.</td>
<td>Const.</td>
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<td>In replanting areas, implement a three-year plant establishment period to allow native species to become established. Control methods for invasive species and maintenance intervals shall be established based on recommendations of a person/company qualified in ecological restoration and invasive species control.</td>
<td>ED, p. 102</td>
<td>County</td>
<td>Post-const.</td>
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<td>Chemical control methods, if needed, would be limited to those considered non-toxic to aquatic life.</td>
<td>ED, p. 102</td>
<td>County</td>
<td>Post-const.</td>
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**Visual/Landscape**

The area located between the tiered walls would be landscaped with native shrubs to the extent feasible (based on maintenance requirements and space constraints) in order to partially screen portions of the wall and provide a more natural appearance. The wall would also be given a texture and color to harmonize with natural surroundings in the SR 116 corridor and/or with roundabout landscape elements.

| ED, p. 49, 50 | County/ Landscape Architect | Design/ Const. |          |      |

Cut slope planting (using no maintenance native shrubs, grasses and groundcover) would be included in the project landscaping plan to mitigate for loss of shrubs.

<p>| ED, p. 50 | County/Design/ Landscape Architect | Design/ Const. |          |      |</p>
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<td>County/Landscape Surgeon</td>
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The County would replant a minimum of 45 native trees. To the extent feasible, tree planting would occur within the right-of-way within the project limits, such as within the roundabout center island and within proposed right-of-way at the top of the proposed roadway cut-slope along the south side of SR 116. However, right-of-way space may be limited due to the need to accommodate utilities and maintenance access, to meet traffic sight distance and safety requirements, and to limit right-of-way acquisition and impacts to adjacent properties. The County of Sonoma would offer to plant trees on private property along the project frontage for those property owners who are interested. If all tree replanting cannot be achieved at these locations, the remaining trees would be planted at an off-site location (Sunset Beach Regional Park) as required per the Natural Environment Study. If off-site planting is required, additional planting of shrubs and other native vegetation along the project cut slopes would be used to mitigate for any remaining visual impact due to the loss of trees.

A landscaping plan addressing center island landscaping, retaining wall texturing and landscaping, and cut-slope landscaping would be developed during the design phase, incorporating input from the citizens' committee. One or more public meetings would be held in the design phase, during which the public would be invited to comment on the proposed plan. The final plan would be provided to the community prior to implementation.

The contractor would be required to comply with Section 5-1.31, Job Site Appearance, of the Caltrans Standard Specifications (2010), which requires the job site to be kept neat.

Construction staging and storage areas would be screened where feasible. Visual opaque screening would be used to limit exposure to the public for any extended period of time.

Community/Social
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A landscaping plan addressing the center island landscaping, retaining wall texturing and landscaping, and cut-slope landscaping will be developed during the design phase. One or more public meetings will be held in the design phase, during which the public will be invited to comment on the proposed plan. The final plan will be provided to the community prior to implementation.

The Contractor will be required to avoid the tree lighting area between November 15 and January 1 and keep it free of obstructions during that period.

Relocations/Real Property Acquisition

A "Keep Clear" pavement marking would be installed on westbound SR 116 at the south entrance of the Rotten Robbie gas station, just east of the roundabout.

Property acquisition would be conducted in compliance with Title VI of the Civil Rights Act (42 U.S. Code 2000d, et seq.).

Compensation would be negotiated with all affected property owners during the right-of-way acquisition phase.

Access to all properties will be provided during construction.

Parks/Recreation

Department of Transportation and Public Works (DTPW) will coordinate with the Sonoma County Regional Parks Department to ensure the roundabout design can accommodate Utilities

Coordinate relocation work with the affected utility companies to minimize disruption of services to customers in the area during construction.

Traffic and Emergency Services
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<td>A public education campaign will be implemented to inform area drivers, pedestrian, cyclists and residents about the new roundabout, and would include information on how drivers should respond when emergency vehicles are approaching the roundabout. The campaign would include measures such as: - Hold public meetings prior to opening the roundabout to traffic and/or give presentations at local organization meetings; - Prepare news releases detailing what motorists, cyclists and pedestrians can expect during and after construction; - Distribute an informational brochure explaining how to navigate roundabouts as a motorist, cyclist, and pedestrian; and - Install signing that warns of changed traffic patterns.</td>
<td>ED, p. 33, 39, 40</td>
<td>County Constr.</td>
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<td>A Transportation Management Plan would be prepared and implemented to address traffic handling and minimize delays during construction, and will include non-motorized traffic notified prior to construction informing them of the proposed The Contractor would be required to maintain access to properties at all times.</td>
<td>ED, p. 34, 41</td>
<td>County/Traffic Const.</td>
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<td>To minimize the effect on traffic operations of the roundabout by vehicles making a left turn from eastbound SR 116 into the south driveway of the Rotten Robbie gas station, a &quot;Keep Clear&quot; pavement marking would be included on westbound SR 116 at the south entrance of the Rotten Robbie gas station, just east of the roundabout. In addition, a sign prohibiting left turns during weekday a.m./p.m. peak periods facing eastbound traffic on SR 116 would be placed on the splitter island, just west of the aforementioned south driveway.</td>
<td>ED, p. 37</td>
<td>County/Design Construct.</td>
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Extra-legal vehicles would be required to obtain a transportation permit from Caltrans prior to using the intersection. The intersection would be temporarily closed and a pilot vehicle would be used to stop traffic so that the extra-legal vehicle can pass through the intersection. Extra-legal vehicles travelling from eastbound SR 116 to northbound Mirabel Road would make a wrong-way (left turn) movement through the roundabout, from eastbound SR 116 onto northbound Mirabel Road. A right turn from Mirabel Road onto SR 116 can be completed by encroaching onto the splitter island without encroachment into the opposite lanes. The roundabout would be designed so that the extra-legal vehicle can complete the turns by passing over a portion of the splitter island and the truck apron. Roundabout signs would be placed in locations that would not interfere with these turning movements.

Coordinate the relocation of the bus stops with Sonoma County Transit in advance of construction.

Coordinate with the Son. Co. Bicycle & Pedestrian Advisory Committee during the design phase.

Access to driveways would be maintained during construction.

Cumulative

Caltrans and the County would coordinate construction activities for the project and the Mirabel Road Shoulder Widening project to minimize traffic disruption and cumulative construction noise to the maximum extent feasible.

Section 14-6.02, Noise Control, of the Caltrans Standard Specifications would be applied to the project and the Mirabel Road Shoulder Widening Project.

brochure to residents explaining how to navigate roundabouts (both in a

Valerie Shearer

Aug 27, 2017

OFFICE CHIEF OF ENVIRONMENTAL PLANNING

Apr 04