

**Contra
Costa
County**

**PUBLIC WORKS DEPARTMENT
INITIAL STUDY OF
ENVIRONMENTAL SIGNIFICANCE**

PROJECT # 0662-6R4063
CP# 11-93

PROJECT NAME: Marsh Creek Road Safety Improvements 1 Mile East of Russelmann Park Road

PREPARED BY: Hillary Heard

DATE: November 30, 2011

APPROVED BY: [Signature]

DATE: Dec. 1, 2011

RECOMMENDATIONS:

☐ Categorical Exemption

☐ Negative Declaration

☐ Environmental Impact Report Required

☒ Mitigated Negative Declaration

The project will not have a significant effect on the environment. The recommendation is based on the following: There is no substantial evidence that the project or any of its aspects may cause a significant effect on the environment (Sec.15070).

What changes to the project would mitigate the identified impacts: N/A

USGS Quad Sheet:
Clayton

Base Map Sheet #:
M-19

Parcel #:
n/a

GENERAL CONSIDERATIONS:

- 1. Location:** The project is located in East Contra Costa County, near the City of Clayton. (Figs. 1-3)
- 2. Project Description:** Marsh Creek Road is a rural road in Eastern Contra Costa County. The project consists of widening approximately 1,900 feet of roadway along Marsh Creek Road in Contra Costa County. Marsh Creek Road is a narrow, two-lane rural collector road that is widely used by commuters as an alternate to the heavily congested State Route 4. The road serves as a vital transportation link between Central and East Contra Costa County for passenger vehicles, heavy trucks, and vehicles with trailers.

The purpose of the proposed project is to improve public safety along this 1,900-foot segment of road, which does not meet current County design standards for rural roads with average daily traffic greater than 9,000 vehicles per day. Safety improvements will entail the widening of travel lanes from 10 feet to 12 feet and creating 8 foot shoulders (a combination of shoulder backing and approximately 6 feet of pavement) on each side of the road. These improvements will give motorists additional area to maneuver, recover from improper turning movements and see around curves, thereby helping to reduce collision rates and collision severity along the road segment. The project also involves the removal of approximately 23 trees along the roadway.

Another purpose of the proposed project is to complete a half-mile segment of the countywide bikeway network described in the 2003 Contra Costa Countywide Bicycle and Pedestrian Plan. The planned widening would significantly increase the room available for bicycles and cars to share the roadway, thus improving the Class III bike route along Marsh Creek Road.

Real property transactions and utility relocation may be necessary in support of this project.

- 3. Does it appear that any feature of the project will generate significant public concern?**

☐ yes ☒ no ☐ maybe (Nature of concern):

- 4. Will the project require approval or permits by other than a County agency?**

☒ yes ☐ no (Agency Name/s); Regional Water Quality Board/ California Department of Fish and Game/U.S. Army Corps of Engineers/East Contra Costa Habitat Conservation Plan/United States Fish and Wildlife Service

- 5. Is the project within the Sphere of Influence of any city?** No

Contra Costa County California

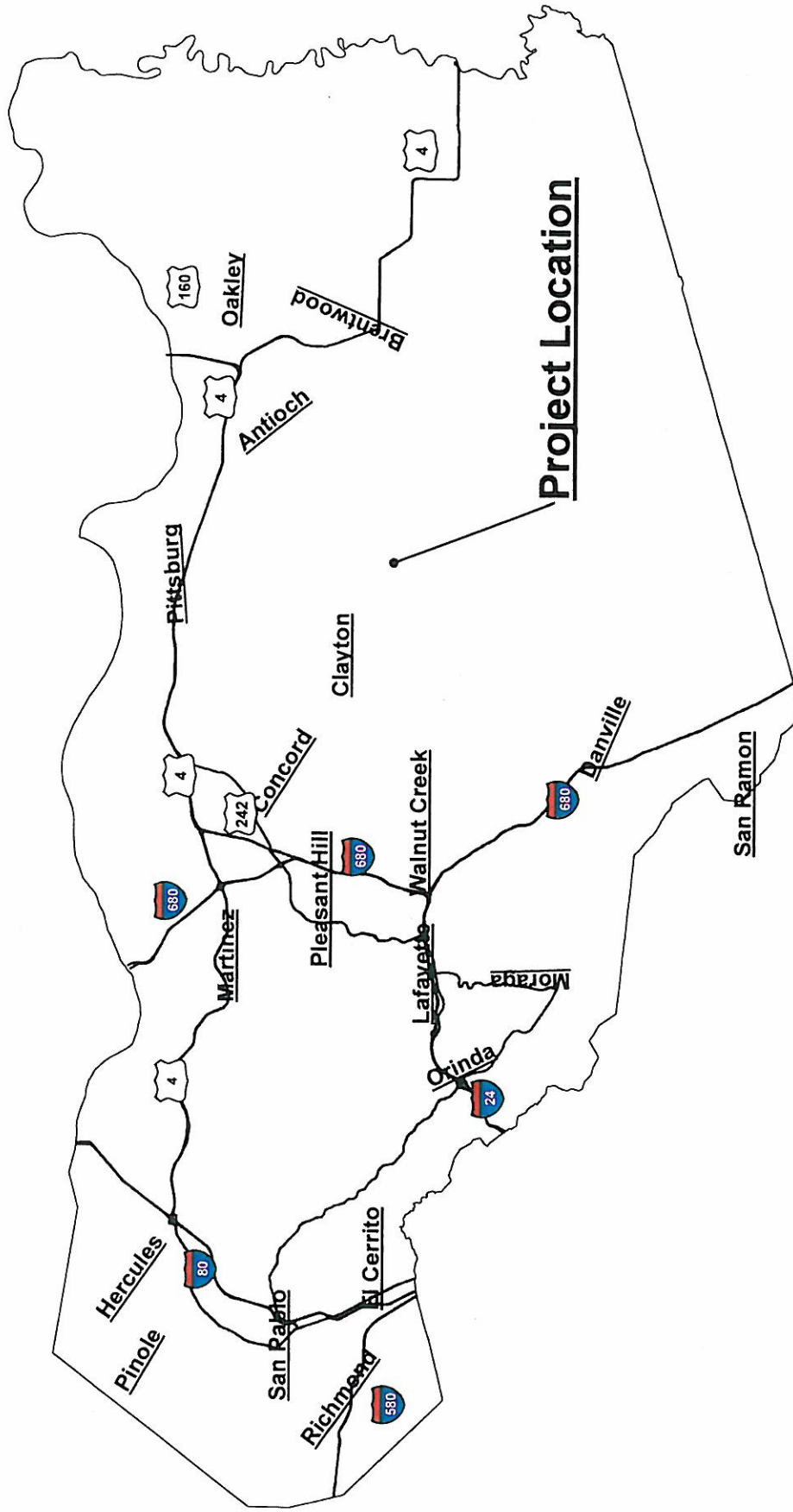


Figure 1 - Project Location Map

614 MAP

1.22,800
1 in. = 1900 ft.

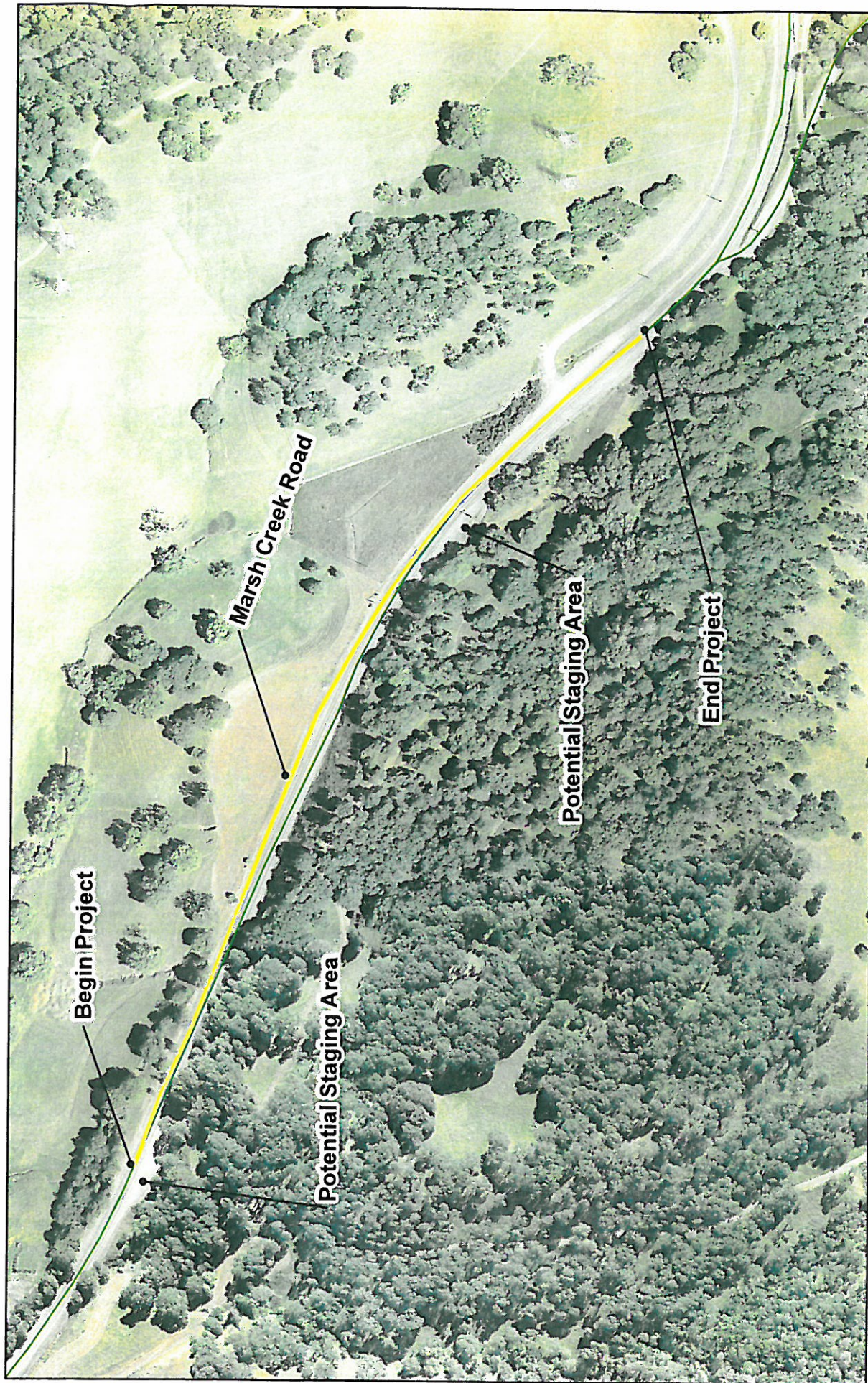


- Project Location

MT DIABLO
STATE PARK

94598

RAND McNALLY



Project Site Map: Contra Costa County
Marsh Creek Road Widening - Russelmann Park Road
Project # 0662-6R4063 CP#11-93

Environmental Checklist Form

1. **Project Title:**
Marsh Creek Road Safety Improvements 1.0 mile East of Russelmann Park Road
2. **Lead Agency Name and Address:**
Contra Costa County Department of Conservation and Development
651 Pine St., Martinez, CA 94553
3. **Contact Person and Phone Number:**
Hillary Heard, Planner II (925) 313-2022
4. **Project Location:**
The project is located in Eastern Contra Costa County near the City of Clayton (figures 1-3)
5. **Project Sponsor's Name and Address:**
Contra Costa County Public Works Department
255 Glacier Dr., Martinez CA 94553
6. **General Plan Designation:**
AL, OS, PR (Agricultural Lands, Open Space, Parks and Recreation)
7. **Zoning:**
A-4 (Agricultural Preserve District)
8. **Project Description:**
Marsh Creek Road is a rural road in Eastern Contra Costa County. The project consists of widening approximately 1,900 feet of roadway along Marsh Creek Road in Contra Costa County. Marsh Creek Road is an existing arterial route in eastern Contra Costa County that is widely used by commuters as an alternate to the heavily congested State Route 4. The road serves as a vital transportation link between Central and East Contra Costa County for passenger vehicles, heavy trucks, and vehicles with trailers.

The purpose of the proposed project is to improve public safety along this 1,900-foot segment of road, which does not meet current County design standards for rural roads with average daily traffic greater than 9,000 vehicles per day. Safety improvements will entail the widening of travel lanes from 10 feet to 12 feet and creating 8 foot shoulders (via a combination of shoulder backing and approximately 6 feet of pavement) on each side of the road. These improvements will give motorists additional area to maneuver, recover from improper turning movements and see around curves, thereby helping to reduce collision rates and collision severity along the road segment. The project also involves the removal of approximately 23 trees along the roadway.

Another purpose of the proposed project is to complete a half-mile segment of the Countywide bikeway network described in the 2003 Contra Costa Countywide Bicycle and Pedestrian Plan. The planned widening would increase the room available for bicycles and cars to share the roadway, thus improving the Class III bike route along Marsh Creek Road.

9. **Surrounding Land Uses and Setting:**

Land surrounding the roadway project consists of California Department of Parks and Recreation (State Parks) Mt. Diablo State Park to the west which is used for recreation (no public access to the Park from the project site is available), East Bay Regional Park District (EBRPD) land for the Black Diamond Regional Mine Preserve to the east and private property used for agricultural purposes for grazing to the northeast.

10. **Other public agencies whose approval is required (e.g. permits, financing, approval, or participation agreement):**

US Fish and Wildlife Service, Regional Water Quality Control Board, California Department of Fish and Game, East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan (HCP/NCCP), U.S. Army Corps of Engineers, State Parks via Section 4(f) Consultation.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forestry Resources	<input type="checkbox"/> Air Quality
<input type="checkbox"/> Biological Resources	<input type="checkbox"/> Cultural Resources	<input type="checkbox"/> Geology/Soils
<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Hazards & Hazardous Materials	<input type="checkbox"/> Hydrology/Water Quality
<input type="checkbox"/> Land Use/Planning	<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Noise
<input type="checkbox"/> Population/Housing	<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation
<input type="checkbox"/> Transportation/Traffic	<input type="checkbox"/> Utilities/Service Systems	<input type="checkbox"/> Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigations measures that are imposed upon the proposed project, nothing further is required.

Signature

Project Planner

Contra Costa County Department of Conservation and Development

Date

Dec. 1, 2011

EVALUATION OF ENVIRONMENTAL IMPACTS:

I. AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a) Would the project have a substantial adverse effect on a scenic vista?

While Marsh Creek Road is considered a County scenic route (Contra Costa County 2005b), the project will not negatively affect scenic vistas from Marsh Creek Road because it will not compromise views of the surrounding hills visible from the road or views of Mt. Diablo State Park. Therefore, the project will have a **less than significant impact**.

- b) Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The project will not damage scenic resources within a state scenic highway because it is not located on or adjacent to a state scenic highway. Therefore, the project will have **no impact**.

- c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

The project will remove 26 roadside trees, the majority of which measure less than 20 inches in diameter at breast height (dbh); however, the surrounding area is heavily vegetated with trees and removal of these trees along the roadway is not anticipated to have a significant impact on the visual character of the site. Construction equipment will be visible temporarily during construction of the safety improvements; however, this is a minor and short-term impact, ending upon completion of the project. Therefore, the project will have a **less than significant impact**.

- d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

With the exception of standard striping, no reflective light sources will be installed by the project. Therefore, the project will not create a new source of substantial light or glare. During construction light sources are not likely to be needed since construction will predominantly take place during daylight hours. Therefore, the project will have **no impact**.

II. AGRICULTURE AND FOREST RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 <u>or</u> conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a) Would the project 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?

The project will not convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance. Based on review of the Contra Costa County Important Farmland Map of 2006, no farmland with these designations occurs within or immediately adjacent to the project. Therefore, the project will have **no impact**.

- b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act Contract?

The project will not conflict with existing zoning for agricultural use or a Williamson Act Contract. Based on a review of the 2007 Agricultural Preserve Maps the project will not affect an existing Williamson Act contract. There are two parcels to the east of the project site within the Agricultural Preserve; however, neither of these parcels will be permanently impacted by the project. While the affected parcels are used for grazing and open space the project will have a negligible impact on the properties (see XIV. Public Services – Parks for discussion). Therefore, the project will have a **less than significant impact**.

- c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?

The project will not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g),

because no forest-land or timberland is present within or adjacent to the project area. Therefore, the project will have **no impact**.

- d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

The project will not result in the loss of forest land or conversion of forest land to non-forest use because forest land is not present within or adjacent to the project. Therefore, the project will have **no impact**.

- e) Would the project 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?

The project consists of a road shoulder widening project to repair existing deficiencies in the roadway. The project will not increase capacity of the roadway, nor are other land use changes proposed that would encourage conversion of farmland to non-agricultural use. Therefore, the project will have a **less than significant impact**.

III. AIR QUALITY

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

Regulatory Setting

The Bay Area Air Quality Management District (BAAQMD) is currently updating its Air Quality Plan (the BAAQMD Draft 2010 Bay Area Clean Air Plan (CAP)), which will update the 2005 Ozone Strategy Plan and address air quality issues of concern including greenhouse gases. The BAAQMD has recently updated its CEQA Guidelines (The 2010 BAAQMD CEQA Air Quality Guidelines Update, Proposed Thresholds of Significance). The 2010 BAAQMD CEQA Air Quality Guidelines will be used to determine the project's impacts with regards to Air Quality analysis.

- a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

The project will not conflict with or obstruct implementation of the applicable air quality plan. Construction of the project will result in temporary increases of air pollutant concentrations from construction equipment and off-haul truck exhaust and soil excavations. Approximately 13,210 cubic yards of soil will be excavated and used for construction purposes. No soil will need to be imported to the site. Using a 20 cubic yard capacity haul truck, approximately 880 cubic yards a day will be exported to an offsite location from the project area over a period of approximately 15 days resulting in approximately 44 trips per work day. Estimated construction emissions were quantified by County staff using the Sacramento Metropolitan Air Quality Management District (SMAQMD) Road Construction Emissions Model (version 6.3.2) to determine if project-related construction emissions exceed BAAQMD significance thresholds. The results of the model (as shown in the table below) indicate that estimated project construction emissions would be approximately: 4.4 ROG (lbs/day), 31.3 NOx (lbs/day), 1.2 PM10 (lbs/day), and 1.0 PM2.5 (lbs/day). Based on the results of the Sacramento Metropolitan Air Quality Management District (SMAQMD) Road Construction Emissions Model that was used to estimate project emissions, the proposed project would not generate construction-related criteria air pollutants and/or precursors that would exceed the thresholds of significance stated in the BAAQMD 2010 CEQA Air Quality Guidelines.

Project Construction Emissions

Pollutant/Precursor	BAAQMD Construction Related Thresholds lbs/day	Project Emissions lbs/day
ROG	54	4.4
NOx	54	31.3
PM10	82	1.2
PM2.5	54	1.0
Source: BAAQMD Table 2-4, 2010 CEQA Guidelines, Project specific results of SMAQMD Road Construction Emissions Model		

In addition, the project will implement the applicable best management practices in accordance to the BAAQMD (BAAQMDa) basic construction measures:

- 1 All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day.
- 2 All haul trucks transporting soil, sand, or other loose material off-site will be covered.
- 3 All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. Dry power sweeping will not be used.
- 4 All vehicle speeds on unpaved roads will be limited to 15 mph.
- 5 Idling times will be minimized by either shutting equipment off when not in use or reducing the maximum idling time to 5 minutes. Clear signage will be provided for construction workers at all access points.
- 6 All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- 7 Signs will be posted with the telephone number and person to contact regarding dust complaints. Complaints will be corrected within 48 hours. The sign will also include the BAAQMD phone number to ensure compliance.

Therefore, project impacts will be **less than significant**.

- b) Would the project violate any air quality standard or contribute to an existing or projected air quality violation?

Exhaust from construction equipment contains ozone precursors and activities associated with construction of the project could produce PM2.5 from construction vehicle emissions and dust (a major source of PM10) generated by grading and soil movement. However, as shown in the table above, the project will not exceed the daily construction-related thresholds for PM10 and PM2.5. In addition, the project will implement the BMP measures listed above. Therefore, the project would not violate any air quality standard or contribute substantially to an existing project air quality violation and the project impacts will be **less than significant**.

- c) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

According to the BAAQMD, if a project's emissions do not exceed the identified significance thresholds, then the emissions would not be considered cumulatively considerable, and no further analysis is required. Therefore, because the proposed project's emissions would not exceed significance thresholds,

they would not be considered to have cumulative impacts (BAAQMD 2010a). Project impacts will be **less than significant**.

- d) Would the project expose sensitive receptors to substantial pollutant concentrations?

Construction of the project will not increase the capacity of Marsh Creek Road above existing conditions. A temporary increase in the concentration of pollutants could occur during construction of the project. Sensitive receptors include those segments of the population most susceptible to poor air quality such as children, the elderly, and those with pre-existing serious health problems affected by air quality which are those places such as schools/schoolyards, parks and playgrounds, day care centers, nursing homes, hospitals, and residential communities (California Air Resources Board 2009). The project will not expose sensitive receptors to substantial pollutant concentrations due to the isolated nature of the site being in a rural area lacking dense population. Therefore, project impacts will be **less than significant**.

- e) Would the project create objectionable odors affecting a substantial number of people?

The project will create minor temporary objectionable odors due to construction activities; however the exposure to objectionable odors during construction will be minor and temporary. Due to the rural location of the site there is not a substantial number of people close to the project area. Therefore the project impacts will be **less than significant**.

IV. BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Project Location and Setting

The project area is located approximately 3 miles east of the city of Clayton and runs along Marsh Creek Road, starting roughly 5,200 feet east of Russelmann Park Road and ending 3,200 feet west of Morgan Territory Road (Figures 1 and 2). The project is located in a rural setting with Mount Diablo State Park to the south and privately owned ranch land and the Black Diamond Mines Regional Preserve (operated by the East Bay Regional Park District) to the north. It is situated within Section 20 on the United States Geological Survey (USGS) 7.5 minute Clayton quadrangle (latitude: 37°52'52", longitude: -121.53'19"). The project is a covered project under the East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan (HCP/NCCP).

East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan

The project falls within the East Contra Costa County Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP). The specific project elements described above are covered under Road Safety Improvements in Section 2.3.2 (Rural Infrastructure Projects) of the HCP/NCCP. The HCP/NCCP provides specific conditions and conservation measures for covered activities to mitigate for potential effects upon federal and state listed species as well as other special status species. Activities covered under the HCP/NCCP are considered to have received Incidental Take authorization from the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG). As required under the HCP/NCCP, Species Specific Planning Surveys were conducted for all covered species potentially affected by the proposed project. All project activities will follow the Best Management Practices (BMPs) and avoidance and minimization measures described in Chapter 6 of the HCP/NCCP.

Project Related Biological Studies and Research

The County contracted with LSA, a biological consulting firm, to conduct a habitat assessment to identify and document special status species, sensitive habitats, natural communities, and jurisdictional wetlands and waters of the U.S. in the project area that may potentially be impacted by the project. LSA prepared a Natural Environment Study (NES), summary Biological Assessment (BA) and Planning Survey Report (PSR). Special Status species not specifically covered by the HCP/NCCP were also addressed in the NES prepared by LSA. Site visits were conducted in March, April, and May of 2009 and March, June and October of 2010. This assessment included a review of:

- The California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB) 2010.
- The California Native Plant Society: Electronic Inventory of Rare and Endangered Vascular Plants of California, 2010.
- The California's Wildlife, Volume I-III: Amphibians and Reptiles, Birds, Mammals: California Statewide Wildlife Habitat Relationships System, California Department of Fish and Game, Sacramento, 1990.
- Corps of Engineers Wetlands Delineation Manual, 1987.
- Fairy Shrimps of California's puddles, pools and playas, 1999.
- The Evaluation of Special Status Species in East Contra Costa County for Coverage in the ECCC HCP/NCCP, Vol 1/Table 3-7 and Vol. 2/Appendix D?

a) Would the project 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?

The project has the potential to impact four federally listed, HCP-covered wildlife species: Alameda whipsnake, California tiger salamander, California red-legged frog and San Joaquin kit fox or their habitats (see below for further detail regarding each of these species). In addition to these federally listed species ten additional special status wildlife species have a limited potential to occur within the Biological Study Area (BSA) as a result of the mapped HCP land cover types: foothill yellow-legged frog (HCP-covered), western pond turtle (HCP-covered), golden eagle (HCP-covered and no-take), western burrowing owl (HCP-covered), Swainson's hawk (HCP-covered), white-tailed kite (no-take under the HCP), pallid bat, Townsend's western big-eared bat (HCP-covered), ringtail (no-take under the HCP), and the San Francisco dusky-footed woodrat.

CCCPWD will pay fees to the East Contra Costa County Habitat Conservancy as identified below in the HCP Fee section. The fees will fund implementation of HCP service area-wide conservation measures.

In addition, to minimize the impact to these species and their habitats, general landscape level avoidance and minimization measures will be implemented, and species-specific avoidance and minimization measures described in each species discussion below will be implemented.

California Tiger Salamander (CTS) – *Ambystoma californiense*:

The CTS is listed as a threatened species under the federal Endangered Species Act (FESA) and as a threatened species under the California Endangered Species Act (CESA). In addition, CTS is a covered species under the HCP/NCCP. Marginally suitable upland migration and aestivation habitat for this species are present within the project area. The grasslands were found to support a relatively habitat for this species are present within the project area. The grasslands were found to support a relatively low density of Botta's pocket gopher burrows, suitable for use by aestivating CTS. Burrow density within the BSA grassland area is considered low due to the small overall area of this habitat that contained gopher burrows (approximately 20% of the total annual grassland area). However the habitat is only marginally suitable due to two factors: (1) the relative paucity of burrows within the BSA's grasslands, and (2) the distance (approximately 0.4 miles – 2,100 feet) to the nearest suitable breeding habitat. This distance is at the upper limits of CTS movement, as indicated by studies from Trenham's and Shaffer's (2005) showing that 50 percent of observed CTS populations occurred within 500 feet of breeding sites and 95 percent of the populations are within 2100 feet of breeding sites.

Avoidance and Minimization Measures:

Because the BSA does not contain suitable CTS breeding habitat there are no species specific avoidance and minimization measures under the HCP/NCCP. General landscape level and avoidance and minimization measures will be implemented as noted at the end of this section.

California Red-Legged Frog (CRLF) – *Rana aurora draytonii*:

The California red-legged frog (CRLF) is an HCP-covered species that is listed as federally threatened (USFWS 1996) and is also a California Species of Special Concern. CRLF is known to occur in the project vicinity (CNDDDB 2010). The closest known CRLF occurrence to the BSA was in a spring located within East Bay Regional Park District land approximately 1.03 miles from the BSA. One adult CRLF was observed at this location on October 24, 2001. The habitat at this location consists of a spring located within a cave surrounded by non-native annual grassland and chaparral. CRLF have been recorded from sixteen other locations within five miles of the BSA. Six of the recordings occur within the Marsh Creek drainage 1.5 miles east of the BSA.

Potentially suitable aquatic habitat for CRLF occurs within 0.2 mile of the BSA within a stockpond in the Black Diamond Mines Regional Preserve, and within 0.3 mile to the north of the BSA within a private parcel. It is unknown whether either of these two features currently or historically supported CRLF.

The BSA does not support any water bodies that could provide potentially suitable breeding habitat for CRLF; nor do any such water bodies occur immediately adjacent to the BSA. However the BSA contains grassland and aquatic habitat (intermittent and ephemeral streams) that could provide suitable dispersal and aestivation habitat for CRLF. Moreover, the site is within approximately 1 mile of a CNDDDB documented breeding site, which is within the known migration distance of CRLF (USFWS 2002). Additionally, the BSA is within the area of modeled migration and aestivation habitat for CRLF under the HCP/NCCP (HCP/NCCP Chapter 4: Figure 4-3).

LSA biologists conducted a habitat assessment and planning survey for CRLF within the BSA on March 10, 2010 (see Section 2.2). Survey results verified that the BSA does not contain suitable CRLF breeding habitat. The intermittent and ephemeral streams have no deep pools capable of providing breeding habitat. Further, the streams have little or no emergent vegetation that could provide cover for CRLF.

The absence of pools and lack of emergent or riparian vegetation along these streams does not negate the potential presence of CRLF (USFWS 2010). Additionally, the annual grassland within the BSA provides marginally suitable upland dispersal habitat for adult CRLF. However, the likelihood of CRLF occurring within the BSA is low due to the absence of suitable breeding sites upstream or downstream of the BSA.

Based on survey results, adult CRLF could potentially occur within the BSA. However, the potential for CRLF occurrence is low for the following reasons: (1) the habitat quality of the intermittent and ephemeral streams and adjacent annual grasslands is marginal, as discussed above; and (2) the distance to the nearest documented breeding habitat (approximately 1.03 mile) is at the upper limits of upland dispersal distance of CRLF from breeding site (generally up to 1 mile – USFWS 2002).

Avoidance and Minimization Measures

Because the BSA does not contain suitable CRLF breeding habitat, there are no species specific avoidance and minimization measures required under the HCP/NCCP. General landscape level avoidance and minimization measures will be implemented as noted at the end of this section.

San Joaquin Kit Fox - *Vulpes macrotis mutica*

The San Joaquin kit fox (SJKF) is an HCP-covered species, listed as federally endangered and State listed as threatened. Occurrences of SJKF have been recorded in the project vicinity. The closest known kit fox occurrence to the BSA was along Marsh Creek Road approximately 2.9 miles to the southeast of the BSA (Occurrence #594 - Figure 6). One adult kit fox was observed at this location by an "untrained observer" in 1989 (CDFG 2010). Kit fox have been recorded from four other locations within five miles of the BSA. These four recordings all occur within grazed annual grasslands located to the south of Antioch over 3 miles northeast of the BSA. These distances are all well within the movement range of SJKF, which can range from 1 to 12 miles from their home dens (USFWS 1998).

The BSA contains grasslands that provide potentially suitable foraging, breeding and denning habitat for SJKF. Further, the BSA lies within the known SJKF foraging range of recorded SJKF den sites, and is within the area of modeled suitable core habitat for SJKF under the HCP/NCCP (HCP/NCCP Chapter 4: Figure 4-1).

LSA biologists conducted a habitat assessment and planning survey for SJKF within the BSA on March 10, 2010. Survey results verified that the BSA contains annual grasslands that are marginally suitable for use by SJKF for breeding, foraging, and movement. The grasslands were found to contain relatively few rodent burrows, and no burrows that appeared suitable for use by kit fox. Potential kit fox foraging and movement habitat within the BSA was found to be limited to the annual grasslands located on the north side of Marsh Creek Road. Within the BSA, evidence or sightings of small mammals in sufficient numbers to support a kit fox prey base was not apparent during the habitat assessment. However, small numbers of ground squirrel and rodent burrows were observed within the annual grassland areas, providing potential foraging habitat for this species.

Based on survey results, SJKF could potentially occur within the BSA. However, the potential for SJKF occurrence is low for the following reasons: The habitat within the BSA and project vicinity is characterized by woodland, chaparral, and steep slopes that are not generally suitable to SJKF. Although there have past occurrences of SJKF within the HCP/NCCP area, the most recent surveys have found no evidence of recent occupancy in the project vicinity (HCP/NCCP Volume 2 – Appendix D Species

Profiles). Additionally, no observations of SJKF have been recorded to the west of hills located to the north of the project site.

Avoidance and Minimization Measures

Although occurrence of SJKF within the BSA is unlikely, the site nevertheless supports marginally suitable breeding, foraging, and movement habitat. Although suitable burrows large enough for breeding were not identified during the planning surveys, there is still the potential for burrows to be created prior to construction. Therefore, prior to any ground disturbance related to covered activities, a USFWS-approved biologist will conduct a pre-construction survey in suitable habitat located within the BSA. The surveys will establish the presence or absence of SJKF and/or suitable dens, and evaluate use by SJKF in accordance with USFWS survey guidelines (USFWS 1999). In accordance with the HCP/NCCP, pre-construction surveys will be conducted no more than 30 days before ground disturbance. The biologist will survey the proposed disturbance footprint and a 250 foot buffer to identify SJKF and/or suitable dens. Adjacent parcels under different land ownership will not be surveyed. The status of all dens will be determined and mapped. Written results of pre-construction surveys will be submitted to USFWS within five working days after survey completion and before the start of ground disturbance. Concurrence is not required prior to initiation of covered activities. If SJKF and/or suitable dens are identified in the survey area during preconstruction surveys, the following specific avoidance and minimization measures will be implemented, as required under Chapter 6 of the HCP/NCCP:

1. If a SJKF den is discovered in the proposed development footprint, the den will be monitored for three days by a USFWS/CDFG– approved biologist using a tracking medium or an infrared beam camera to determine if the den is currently being used.
2. Unoccupied dens should be destroyed immediately to prevent subsequent use.
3. If a natal or pupping den is found, USFWS and CDFG will be notified immediately. The den will not be destroyed until the pups and adults have vacated and then only after further consultation with USFWS and CDFG.
4. If SJKF activity is observed at the den during the initial monitoring period, the den will be monitored for an additional five consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied it may be excavated under the direction of the biologist. Alternatively if the animal is still present after five or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of the biologist, it is temporarily vacant (i.e., during the animal's normal foraging activities).
5. If dens are identified in the survey area outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No activities will occur within the exclusion zones. Exclusion zone radii for potential dens will be at least 50 feet and will be demarcated with four to five flagged stakes. Exclusion zone radii for known dens will be at least 100 feet and will be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the den by SJKF.

Foothill Yellow-legged Frog - *Rana boylii*

The foothill yellow-legged frog (FYLF) is an HCP-covered California Species of Special Concern. FYLF is not known to occur in the project vicinity (CNDDDB 2010) and according to Jennings and Hayes (1994),

only 11 occurrence records of foothill yellow-legged frog are known from Contra Costa County. Eight of these populations are believed to be extinct. The 3 remaining records are concentrated in the Mount Diablo region. Potentially suitable aquatic habitat for FYLF occurs in the ephemeral and intermittent streams within the BSA. LSA biologists conducted a habitat assessment and planning survey for FYLF within the BSA on March 10, 2010. Survey results verified that FYLF were not observed within the BSA.

Based on survey results, adult FYLF could potentially occur within the BSA. Nevertheless, the potential for FYLF occurrence is low for the following reasons: (1) the habitat quality of the intermittent and ephemeral streams and adjacent annual grasslands is marginal, because water is not present for a long duration; and (2) few records of FYLF are known for Contra Costa County and it is not known from the project vicinity.

Approximately 0.02 acre of marginally suitable habitat for FYLF will be permanently impacted by construction activities. Approximately 0.01 acre of marginally suitable habitat will be temporarily impacted.

Avoidance and Minimization Measures

There are no species specific avoidance and minimization measures required under the HCP/NCCP. General landscape level avoidance and minimization measures will be implemented as noted at the end of this section.

Western Pond Turtle - *Actinemys marmorata*

Western pond turtle is an HCP-covered California Species of Special Concern. The western pond turtle is known from a CNDDB record from a pond just over 2 miles to the southeast of the BSA. The intermittent and ephemeral streams within the BSA do not contain pools and are generally too dry to provide optimal habitat for western pond turtles. No western pond turtles were observed in the project site, but due to potential breeding habitat in the project vicinity, including stock ponds, dispersing individuals could occasionally use the intermittent creek corridor for dispersal. Approximately 0.02 acre of marginally suitable dispersal habitat for western pond turtle will be permanently impacted by construction activities. Approximately 0.01 acre of marginally suitable dispersal habitat will be temporarily impacted.

Avoidance and Minimization Measures

There are no species specific avoidance and minimization measures required under the HCP/NCCP. General landscape level avoidance and minimization measures will be implemented as noted at the end of this section.

Alameda Whipsnake - *Masticophis lateralis euryxanthus*

The Alameda whipsnake (AWS) (a.k.a., Alameda striped racer) is an HCP-covered, federally (USFWS 1997) and State-listed threatened species that occurs in the Inner Coast Ranges of western and central Contra Costa and Alameda Counties. A large stand of suitable AWS chaparral core habitat (in excess of 400 acres) is situated approximately 0.6 miles north of the BSA. There are also several known AWS occurrences within or near to the project vicinity. The BSA contains annual grassland and scrub that provide potentially suitable habitat for AWS. The BSA lies within the proximity of the known foraging range of one recorded AWS occurrence (#54), and is within the area of modeled suitable core habitat for AWS under the HCP/NCCP (HCP/NCCP Chapter 4: Figure 4-2).

LSA biologists conducted a habitat assessment and planning survey for AWS within the BSA on March 10, 2010 (see Section 2.2). Survey results verified that the BSA contains approximately 7.73 acres of

suitable AWS habitat, consisting of annual grassland and scrub (Figure 10). However, the survey results also indicated that the BSA and adjacent areas do not provide suitable core habitat for AWS; the small areas of scrub within and adjacent to the BSA are generally poor AWS habitat, primarily due to their small size, and orientation (see discussion below). Additionally, the BSA is situated in close proximity to Marsh Creek Road, which is heavily used in the daytime when AWS are active, and therefore constitutes a potentially lethal barrier to AWS movement onto the BSA.

The small areas of scrub located to the north and south of Marsh Creek Road were found to have a poor suitability for AWS due to their small size and location on shaded slopes. Some of the shading was caused by the adjacent oak woodland. Such shading does not provide adequate basking opportunities for AWS and their prey and would inhibit the movement of male whipsnakes in the spring when they are moving in search of mates (Swaim 1994). Sunlight penetration through the scrub canopy on slopes facing the morning sun (e.g., east and southeast slopes) permits morning warming of AWS and their prey, while slopes facing away from the morning sun (e.g., north slopes) do not allow such warming (Swaim and McGinnis 1992).

One of the key components of optimal AWS habitat is an adequate prey base, which typically coincides with an abundance of western fence lizards. Western fence lizards were observed in the BSA, but probably have a low abundance due to lack of rock outcrops or other suitable rocky habitat features.

Based on survey results, AWS could potentially occur within the BSA. However, the potential for AWS occurrence is low because the majority of suitable scrub habitat within the BSA is of poor quality due to a closed canopy primarily, occurrence on north-facing slopes, small size, and proximity to Marsh Creek Road.

Approximately 1.28 acres of marginally suitable habitat for AWS will be permanently impacted by construction activities. Approximately 0.42 acre of marginally suitable habitat will be temporarily impacted.

Avoidance and Minimization Measures

The HCP/NCCP does not require any species specific avoidance and minimization measures for AWS. General landscape level avoidance and minimization measures will be implemented as noted at the end of this section.

Golden Eagle - *Aquila chrysaetos*

Golden eagle is an HCP-covered, no-take species that is fully-protected by the California Fish and Game Code. A golden eagle nest was recorded within 10 miles of the proposed project (CNDDB 2010), but there are no records of nesting within the project vicinity. No nests were observed by LSA biologists in the BSA during planning level surveys, conducted as required by the HCP/NCCP. The trees within the BSA that would potentially support a nest are too close to Marsh Creek Road, which is a heavily trafficked roadway that likely creates too much noise distractions for eagle nesting.

Avoidance and Minimization Measures

In accordance with HCP/NCCP requirements, a preconstruction survey for golden eagle nests will be conducted. The BSA will be surveyed no more than 1 month in advance of construction to establish whether golden eagle have occupied nests within 0.5 mile of the project site. Occupancy of nests will be determined by observation from the BSA and public roads or by observations of golden eagle activity (e.g., foraging) near the project site. No construction will occur within 0.5 mile of an active nest until the young have fledged. The size of the buffer may be decreased depending on site-specific conditions if verified by CDFG and USFWS. Monitoring is required to ensure that construction does not occur within the buffer.

Due to the absence of nests in the project vicinity, the proposed project is not likely to affect any nest tree of the golden eagle. However, if golden eagles were to subsequently nest in a tree proposed for removal, the avoidance and minimization measures described above, and as detailed in the HCP/NCCP, would be required.

Avoidance and minimization measures will be implemented; therefore, no project impacts to golden eagles are expected.

Swainson's Hawk

Swainson's hawk is an HCP-covered and State-listed threatened species that occurs in fragmented subpopulations within California, with the largest breeding population in the Central Valley (Peeters and Peeters 2005). However, marginally suitable foraging and nesting habitat for this species occurs within the annual grassland located in the BSA. Swainson's hawk is known to occur more than 5 miles away from the BSA primarily within the open grasslands south of Antioch (CNDDDB 2010). During the planning level surveys, as required by the HCP/NCCP, no Swainson's hawk nests or other nests were observed within the BSA. The trees within the BSA that could potentially support a nest are too close to Marsh Creek Road, which is a heavily trafficked roadway that likely creates too much noise for Swainson's hawk nesting.

Avoidance and Minimization Measures

1. Prior to any project-related ground disturbance that occurs during the Swainson's hawk nesting season (March 15-September 15), a CDFG-approved biologist shall conduct a pre-construction survey no more than 30 days prior to construction to establish whether Swainson's hawk nests within 1,000 feet of the project site are occupied.
2. If potentially occupied nests exist within 1,000 feet of the project action area, then their occupancy will be determined by observation from public roads or by observations of Swainson's hawk activity (e.g. foraging).
3. If an active nest is found after the completion of the pre-construction surveys and after construction begins, all construction activities within the area shall stop until a qualified biologist has evaluated the nest and erected the appropriate buffer around the nest.
4. If establishment of the buffer is not feasible, CDFG/USFWS shall be contacted for further avoidance and minimization guidelines.
5. If nests are occupied, the following minimization measures and construction monitoring are required:
 - During the nesting season, covered activities within 1,000 feet of occupied nests or nests under construction shall be prohibited to prevent nest abandonment.
 - If young fledge prior to September 15, covered activities can proceed normally.
 - If the active nest site is shielded from view and noise from the project site by other development, topography, or other features, CCCPWD can apply to the HCP Conservancy for a waiver of this avoidance measure prior to continuation of construction activity. Any waiver must also be approved by USFWS and CDFG. While the nest is occupied, activities outside the 1000 foot buffer can take place.

Nest trees lost to HCP/NCCP covered activities if any would be mitigated as described below. The HCP/NCCP does not contain provisions for mitigation of impacts to foraging habitat.

Mitigation Measure

The HCP/NCCP stipulates that 15 saplings should be planted for every nest tree lost. Monitoring of trees planted as mitigation for the removal of Swainson's hawk nest trees would occur annually for 5 years and then every other year until year 12. At the end of 12 years, 5 of those saplings should be living. During the last 3 years of monitoring, the trees should not be irrigated. The details of implementing the mitigation

are explained in the HCP/NCCP (Jones and Stokes 2006).

Avoidance and minimization measures will be implemented; therefore, no project impacts to Swainson's hawks are expected, however in the unlikely event that a nest tree is present the above described mitigation measure stipulated by the HCP/NCCP will be followed.

White-tailed Kite- *Elanus leucurus*

The white-tailed kite is a no-take species designated by the CDFG as Fully Protected. White-tailed kites are not known to nest within 5 miles of the BSA. The white-tailed kite and any kite nest were not observed within the BSA during site surveys. The BSA and vicinity provides suitable trees for kites to construct a nest. The proximity of Marsh Creek Road diminishes the suitability of the habitat immediately adjacent to the road because of the high traffic volume.

Avoidance and Minimization Measures

The nests of all native bird species are protected under the federal MBTA and California Fish and Game Code. Under this legislation, destroying active nests, eggs, and young is illegal. The following measures would be implemented to address nesting birds.

1. To the extent feasible, vegetation removal activities shall not occur during the breeding season of March 1 through August 31.
2. If vegetation removal must occur during the breeding season, all sites shall be surveyed by a qualified biologist to verify the presence or absence of nesting birds.
3. Pre-construction surveys shall be conducted not more than seven days prior to the start of work from March 1 through August 31.
4. If the survey indicates the potential presence of nesting birds, the biologist shall determine an appropriately sized buffer around the nest in which no work will be allowed until the young have successfully fledged.
5. The size of the nest buffer will be determined by the biologist in consultation with the CDFG, and will be based to a large extent on the nesting species and its sensitivity to disturbance. In general, buffer sizes of 250 feet for raptors and 50 feet for other birds should suffice to prevent disturbance to birds nesting in the urban environment, but these buffers may be decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.

The proposed project is not likely to affect any nest tree of the white-tailed kite

Avoidance and minimization measures will be implemented; therefore, no project impacts to white-tailed kites are expected. However, if nest trees of Swainson's hawks are affected, they will be mitigated as described above.

Western Burrowing Owl- *Athene cunicularia*

Western burrowing owl is an HCP-covered California bird species of special concern that occurs in open, well-drained grasslands with abundant small mammal burrows, particularly those of California ground squirrels (Shuford and Gardali 2008). Western burrowing owl is known to occur more than 5 miles away from the BSA primarily within the open grasslands south of Antioch. The burrowing owl could occur as a transient species within the BSA in the annual grassland. A planning level survey of the BSA, as required by the HCP/NCCP, was conducted to identify potential burrowing owl habitat. Due to the small number of underground retreats, such as ground squirrel burrows, identified in the BSA, the suitability of the project

site as breeding or wintering habitat for this species is limited.

Avoidance and Minimization Measures

Prior to any ground disturbance related to covered activities, a USFWS/CDFG approved biologist will conduct a preconstruction survey within the proposed project site and a 500-foot radius from the perimeter of the project site to identify burrows and owls in accordance with CDFG survey guidelines. Adjacent parcels under different land ownership will not be surveyed. Surveys are required to take place near sunrise or sunset in accordance with CDFG guidelines.

Surveys will take place no more than 30 days prior to construction. During the breeding season (February 1– August 31), surveys will document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1–January 31), surveys will document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results will be valid only for the season (breeding or nonbreeding) during which the survey is conducted. All burrows or burrowing owls will be identified and mapped.

If burrowing owls are found during the breeding season (February 1–August 31), the project will avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance will include establishment of a nondisturbance buffer zone, described below. Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1– January 31), the project should avoid the owls and the burrows they are using, if possible. Avoidance will include the establishment of a buffer zone, which is described below.

If occupied burrows for burrowing owls are not avoided, passive relocation will be implemented. Owls should be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. The doors should be in place for 48 hours prior to excavation, and the project site should be monitored daily for one week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation in accordance with CDFG guidelines. Plastic tubing or a similar structure should be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow.

Surveys conducted during the non-breeding season (September 1 – January 31) will identify whether owls are wintering in or adjacent to the action area. If occupied burrows cannot be avoided but owls are not actively nesting, passive relocation as described above shall be implemented. If no western burrowing owls are observed, burrows shall be filled in or the area shall be disked to prevent owls from occupying the area.

Advance burrow management may be implemented in the construction zone and right of way under the direction of a qualified biologist prior to the start of the nesting season to minimize the potential for nesting burrowing owl to be present when construction is scheduled.

Given that no burrows or other type of nest area were observed within or adjacent to the BSA, the proposed project is not likely to affect burrowing owl burrows.

Pallid Bat- *Antrozous pallidus*

The pallid bat is a California Species of Special Concern. The potential for pallid bats to occur on the project site is low and the proposed project is unlikely to affect this species. Although the species was known to occur historically within 5 miles of the proposed project, there are no records of occurrence for the past half century. The most recent record is from 1942 at Concord High School, approximately 7.1 miles from the project site (CNDDB 2010).

Pallid bats were not observed during the planning level surveys by biologists, nor did biologists observe any evidence of possible pallid bat roosting sites. Nevertheless, suitable foraging habitat for pallid bats occurs within the site's annual grasslands, and larger trees on the site could potentially provide suitable day and night roosting habitat where hollowed trunks and branches have developed. Suitable habitat for maternity roosts does not occur on site due to the absence of structures, mines, and caves.

Avoidance and Minimization Measures

The proposed project could affect pallid bats if the species were to establish day or night roosts within large trees on the site prior to the commencement of work. To avoid harm to this species, the following measures shall be implemented:

1. All potential roosting trees within the project site shall be surveyed for the presence of bat roosts by a qualified biologist. The survey may entail direct inspection of the trees or nocturnal surveys, and shall be conducted no more than two weeks prior to the initiation of tree removal and ground disturbing activities. If no roosting sites are present, then trees shall be removed within two weeks following the survey.
2. If roosting sites are present and occupied, then a qualified biologist shall determine the species of bats present. If the bats are not found to be pallid bats or any other special-status bat species, then the bats may be evicted from roosts in trees that are to be removed using methods developed by a biologist experienced in bat mitigation and exclusion plans. The biologist shall prepare an eviction plan detailing the methods of excluding bats from the roost(s) and the methods to be used to secure the existing roost site(s) to prevent its reuse prior to removal. Removal of the roost(s) shall only occur after the eviction plan has been approved by CDFG.
3. Tree removal surrounding roost trees shall be conducted without damaging the roost trees.
4. No diesel or gas-powered equipment shall be stored or operated directly beneath a roost site.

The proposed project would not affect maternity roosts of pallid bats. The project could affect small day and night roosts that could potentially occur in large trees within the project site. Impact to pallid bats using such roosting sites would be avoided and minimized through the measures listed above.

Avoidance and minimization measures will be implemented; therefore, no project impacts to pallid bats are expected.

Townsend's Western Big-eared Bat - *Corynorhinus townsendii townsendii*

The Townsend's western big-eared bat is a California Species of Special Concern and an HCP-covered species. The potential for Townsend's big-eared bats to occur on the project site is low and the proposed project is unlikely to affect this species. The species is not known to occur within 5 miles of the project site (CNDDB 2010), and was not observed during the planning level surveys by biologists; nor did biologists observe any evidence of possible roosting sites. Nevertheless, suitable foraging habitat for pallid bats occurs within the site's annual grasslands and at the edge of the oak woodland areas.

Additionally, larger trees on the site could potentially provide suitable day, night maternity roosting habitat where hollowed trunks and branches have developed. Suitable habitat for maternity roosts does not occur on site due to the absence of structures, mines, and caves.

Avoidance and Minimization Measures

The proposed project could affect Townsend's big-eared bats if the species were to establish day, night or maternity roosts within large trees on the site prior to the commencement of work. In accordance with the HCP/NCCP, a preconstruction survey would be conducted to determine whether the trees are occupied immediately prior to construction or whether they show signs of recent previous occupation. The preconstruction surveys would determine what avoidance and minimization requirements are triggered before construction and whether construction monitoring is necessary.

In accordance with the HCP/NCCP, if the species is discovered or if evidence of recent prior occupation is established, construction will be scheduled such that it minimizes impacts on Townsend's big-eared bat. Hibernation sites with evidence of prior occupation will be sealed before the hibernation season (November–March), and nursery sites will be sealed before the nursery season (April–August). If the site is occupied, then the action will occur either prior to or after the hibernation season for hibernacula and after August 15 for nursery colonies. Construction will not take place as long as the site is occupied.

Avoidance and minimization measures will be implemented; therefore, no project impacts to Townsend's western big-eared bats are expected.

Ringtail- *Bassariscus astutus*

The ringtail is a California Fully Protected species under the California Fish and Game Code. The potential for ringtails to occur on the project site is low and the proposed project is unlikely to affect this species. Only two known records exist for ringtails in Contra Costa County, one of which is in the Los Vaqueros watershed. No evidence of their occurrence was observed during the planning level surveys by biologists. Nevertheless, potentially suitable habitat for ringtails occurs in the oak woodland, chaparral and scrub, and intermittent stream HCP land cover types within and adjacent to the BSA. Additionally, large trees or logs on the site could support hollowed recesses potentially large enough to provide cover for the ringtail

Avoidance and Minimization Measures

Under the Fish and Game Code, take is prohibited of all Fully Protected species such as ringtails. The proposed project could potentially result in take of individual ringtails if they were to establish dens (hollowed trees or hollow logs) on the site. Therefore, prior to the start of work, a pre-construction survey shall be conducted by a qualified biologist of all potentially suitable den sites (i.e. tree hollows and logs) within the project site. Any occupied dens shall be flagged, and the biologist shall prepare a ringtail passive relocation plan subject to the approval of CDFG. The commencement of construction work shall be delayed until one of the following has occurred:

1. If the biologist has documented that ringtails have voluntarily vacated the den site, then construction may begin within 7 days following this observation.
2. If the den is not vacated within 20 observation days, then the biologist may commence passive relocation in accordance with the CDFG approved relocation plan. No relocation shall be conducted during the early pup-rearing season of May 1 to June 15.

All activities that involve the ringtail shall be documented and reported to the CDFG within 30 days of the activity.

Avoidance and minimization measures will be implemented; therefore, no project impacts to ringtails are expected.

San Francisco Dusky-footed Woodrat - *Neotoma fuscipes annectens*

The San Francisco dusky-footed woodrat is a California species of special concern. A nest of the dusky-footed woodrat was observed in the understory of the oak woodland within but near the edge of the proposed project site.

Avoidance and Minimization Measures

The nest of the San Francisco dusky-footed woodrat is located at or near the edge of the proposed project site and might be avoided. If the woodrat nest is within the area to be graded, then the woodrat will be captured by a qualified biologist with a live trap. Immediately after the capture of the woodrat, its nest shall be physically moved with a piece of heavy equipment, such as a front end loader, to a location outside of the project site but as close to the original nest location as possible. The nest shall be placed in the understory of the woodland in or beside dense understory shrubs. Care shall be taken to disturb the nest as little as possible during the moving process. Such care may require that the front end loader scoop into the substrate beneath the nest. Immediately after the nest has been moved, the woodrat shall be released at its new nest site. If trapping is unsuccessful after a good faith effort and if there is no evidence that the nest is inhabited by the woodrat the woodrat nest shall be moved as described above.

Avoidance and minimization measures will be implemented; therefore, no project impacts to the San Francisco dusky-footed woodrat are expected.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 protects most birds in the United States including non-status species as well. Under this legislation, destroying active nests, eggs, and young is illegal. As a result, precautions should be taken before and during construction to ensure no harm or harassment of avian species. Any vegetation removal or tree trimming should be conducted during the non-breeding season between September 1 and March 1. If vegetation removal is to be performed during the breeding season, a pre-construction nest survey will be conducted within 14 days prior to the onset of construction to identify any active nests within the project area. If an active nest of a passerine species is found, a 50 ft. minimum radius exclusion zone around the active nest would be installed and would remain in place until all young have fledged. If an active nest of a raptor species is found, a 250 foot minimum radius exclusion zone around the nest will be installed. A qualified biologist will determine when the nests are no longer active. If the 50 ft. (for passerines) and 250 foot (for raptors) exclusion zone is not feasible the Department of Fish and Game and the U.S. Fish and Wildlife Service will be contacted for further guidance.

Other Species

Protocol-level botanical surveys were conducted within the BSA in 2009 and 2010. No sensitive plant species were observed within the BSA during the surveys.

- b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The project will impact 0.03 acre of Seasonal Wetland and 0.081 acre of Ephemeral Stream. Impacts

to these two features will be mitigated through the payment of fees to the East Contra Costa County Habitat Conservancy as identified below in the Fee discussion. Therefore, impacts to sensitive natural communities will be **less than significant with mitigation**.

- c) Would the project 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?

The project will have an impact on 0.03 acre of Seasonal Wetland and 0.081 acre of Ephemeral Stream; these features are seasonal. These two features are within the US Army Corps of Engineers (USACE) jurisdiction, the Department has requested a Wetland Delineation Verification from the USACE for these features. Impacts to these two features will be mitigated through the payment of fees to the East Contra Costa County Habitat Conservancy as identified below in the Fee discussion. Therefore, impacts will be **less than significant with mitigation**.

- d) Would the project 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?

The project will not result in permanent disruption to movement of wildlife species. However, construction of the project and subsequent recovery of the project area may temporarily inhibit dispersal, migration, and daily movement of common, listed, and rare wildlife. Temporary impacts to these species will be offset by payment of mitigation fees to the HCP/NCCP as discussed below. Therefore, project impacts will be **less than significant with mitigation**.

- e) Would the project conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?

The project is not subject to the County Tree Ordinance. Therefore the project will **have no impact**.

- f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?

The project is consistent with the East Contra Costa County HCP/NCCP. The project is listed as a covered activity (Road Safety Improvements) in the HCP/NCCP. The County will pay the applicable mitigation fees as summarized below. Therefore, the project will **have a less than significant impact**.

Following are the general avoidance and minimization measures required by the HCP:

General HCP Avoidance and Minimization Measures

The project falls into the "Other Road Safety Improvements Subject to Design" project category listed in the HCP (Table 6-6); therefore the following measures are required:

1. Siting the project in the least sensitive location
2. Siting equipment storage areas away from sensitive areas
3. Conducting wildlife surveys well ahead of project design
4. Utilizing the latest research in design requirements
5. Follow applicable Best Management Practices (silt fencing, sediment control, etc.)
6. Control roadside vegetation adjacent to open spaces
7. Revegetate cut/fill slopes with native vegetation

HCP/NCCP Fees Compensatory mitigation for impacts to listed species and their habitats will be achieved through payment of a Development Fee as well as an additional Wetland Fee. All HCP/NCCP fees are automatically updated on March 15th of each year and the exact mitigation fees to be paid will be calculated based on the current fee schedule at the time of contract award and the exact acreage of impact based on final project plans. The fees will be paid to the HCP/NCCP Conservancy prior to the start of construction. These project specific wetland and development mitigation fees will enable the program-level implementation of conservation measures defined by the HCP/NCCP to enhance and restore wetland resources, manage grassland habitat and manage the prey base in grasslands.

The proposed project falls within Zone 2 (Natural Lands) of the HCP Zone Map and is subject to the Rural Road Fee requirements in Section 9.3.1 of the HCP/NCCP. Under these requirements, rural road projects not specifically assigned a rural road fee (in HCP/NCCP Table 9-6) are required to pay a development fee based on the acreage of permanent and temporary disturbance, in this case 1.30 and 0.43 acres, respectively. Land cover types included in the permanent and temporary impact calculations for the development fee include annual grassland, oak woodland, chaparral and scrub, and stream.

Development Fee:

Using the current HCP/NCCP Fee Calculator, a Development Fee of \$28,331.46 will be required, which includes \$27,721.59 for permanent impacts and \$609.87 for temporary impacts.

Wetland Fee:

The project will involve permanent and temporary impacts to an ephemeral stream, and is therefore subject to Wetland Mitigation Fee requirements under the HCP/NCCP. Using the current HCP/NCCP Fee Calculator, a total Wetland Mitigation Fee of \$78,647.15, which includes \$77,910.16 for permanent stream impacts and \$736.99 for temporary stream impacts, will be required.

Therefore, the total combined HCP fee for the proposed project will be \$106,978.61.

V. CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

The project will not create a substantial adverse change to historical resources of significance. The County obtained the services of an archaeological consulting firm, LSA Associates, Inc. (LSA). LSA conducted a detailed review of the project's potential impacts to significant historical resources. In addition to an in-depth records search, LSA also visually inspected the project area on foot during a field survey. The field survey examined the ground surface of the Area of Potential Effect (APE), via visual inspection of the bare soil and periodic soil examination by trowel. No evidence of cultural materials or culturally developed soils was encountered during the field survey. Since no historic features or object concentrations were encountered within any of the excavated units, LSA concluded that the project is not likely to impact cultural resources. Regardless of these results, contract specifications will include contingency plans to address any unearthened cultural resources. These will include the stoppage of work in the immediate area of any discovery, and, in the case of human remains, immediately contacting the county coroner, Native American Heritage Commission, and a qualified archeologist to determine how to appropriately deal with the remains. Therefore, project impacts will be **less than significant**.

- b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

The project will not create a substantial adverse change to archaeological resources of significance. LSA conducted a detailed review of the project's potential impacts to significant archaeological resources. After an in-depth records search and a visual inspection of the project area via a field survey, LSA concluded that archaeological resources of significance are not expected to be encountered during construction. However, if archaeological resources are encountered, work will stop in the vicinity of the finding and a qualified archaeologist will evaluate the item. Therefore, project impacts will be **less than significant**.

- c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

The project will not destroy any unique paleontological resources or sites because based on research, including field surveys conducted by LSA, no significant paleontological resources would be expected to occur in the project vicinity. However, if paleontological resources are encountered, work will stop in the vicinity of the finding and a qualified paleontologist will evaluate the findings. Therefore, project impacts will be **less than significant**.

- d) Would the project disturb any human remains, including those interred outside of formal cemeteries?

The project will not impact any formal or informal cemeteries because none are present within or adjacent to the project location. LSA reviewed recorded Native American burial grounds and/or sacred land sites in the project vicinity and determined that no recorded sites are within or immediately adjacent to the project area. In order to determine if there are any unrecorded burial grounds and/or sacred land sites in the vicinity of the project area, a list of Native American representatives for the region was obtained from the Native American Historic Commission (NAHC). The listed Native American representatives were notified of the project via certified mail and follow up emails or phone calls. No responses have been received to date. Construction work will stop if human remains are encountered and the appropriate contacts will be made including immediately contacting the County Coroner, Native American Heritage Commission, and a qualified archeologist to determine how to appropriately deal with the remains in accordance with the California Health and Safety Code (Health and Safety Code Section 7050.5[b]). Therefore, project impacts will be **less than significant**.

VI. GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2 Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3 Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4 Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving?
- 1 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

A review of the Contra Costa County General Plan Figure 10-2 (Mapped Earthquake Faults) located the closest inactive earthquake fault approximately 1.0 mile east of the project location and no active faults are known to be present within the project area. Due to the rural location of the site there is not a substantial number of people or structures close to the project area and project engineers have taken in to account the seismic activity in the area as part of the design for the project. Therefore, the project will have **no impact**.

- 2 Strong seismic ground shaking?

The project area is located in a seismically active region of California and therefore earthquakes occurring along nearby faults in the region have the potential to produce strong ground shaking within and adjacent to the project site. However, no active faults cross the project area; therefore the project is not expected to expose people to substantial adverse effects involving strong seismic ground shaking. Nevertheless, the project design and construction will incorporate measures that are in accordance with

local design practice and guidelines to ensure that the project will withstand seismic activity. Therefore, the project impacts will be **less than significant**.

3 Seismic-related ground failure, including liquefaction?

There is a moderate to low possibility of liquefaction potential in the project area (Contra Costa County 2005d). The project design and construction will incorporate recommended measures in accordance with local design practice and guidelines to ensure that the project will withstand seismic activity and liquefaction. Therefore, project impacts will be **less than significant**.

4 Landslides?

A review of the geological (landslides) hazards map (Contra Costa County 2005e) revealed no known geological or soil hazards in the vicinity of the project. In addition, the project engineers have designed the project to take into account the steep slopes surrounding the site. Therefore, there will be **no impact**.

b) Would the project result in substantial soil erosion or the loss of topsoil?

The project will not result in substantial soil erosion or the loss of topsoil because minor grading and excavation associated with the shoulder widening will result in a negligible change in topography. The project will temporarily increase the exposure of soils to wind erosion. However, grading and excavation will be temporary impacts. Adherence to standard dust control and erosion control practices, including, but not limited to, general watering of exposed areas and/or use of chemical stabilizers will minimize impacts. In order to minimize potential erosion due to general watering during construction activities, contract specifications will require the contractor to implement appropriate watering levels and duration. Therefore, project impacts will be **less than significant**.

c) Would the project 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?

Ground failure includes liquefaction and the liquefaction-induced phenomena of lateral spreading, and lurching. Liquefaction and liquefaction-induced phenomena result when sediments below the water table temporarily lose strength during an earthquake and behave as a viscous liquid rather than a solid. Liquefaction and associated phenomena is restricted to certain geologic and hydrologic environments, primarily recently deposited sand and silt in areas with high groundwater levels. According to Figure 10-5 of the Contra Costa County General Plan, the project site has a moderate to low liquefaction potential. Therefore, project impacts will be **less than significant**.

d) Would the project 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?

Based on a review of the Swelling Clays Map of the Conterminous United States for expansive soils the project area has a less than 50 percent possibility that the soils in the project site are underlain by soils with abundant clays of slight to moderate swelling potential. Therefore, project impacts will be **less than significant**.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems where sewers are not available for the disposal of wastewater?

The project description does not include septic or other waste systems; therefore, there will be **no impact**.

VII. GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Global Climate Change

Climate change refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time (Office of Planning and Research [OPR] 2008b). There is a general scientific consensus that global climate change is occurring, caused in whole or in part by increased emissions of greenhouse gases (GHGs) that keep the earth's surface warm by trapping heat in the atmosphere. Climate change may result from natural factors, natural processes, and human activities that change the composition of the atmosphere and alter the surface and features of the land (OPR 2008b). The major GHGs that are released from human activity include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) (OPR 2008b). The primary sources of GHGs are vehicles (including planes and trains), energy plants, and industrial and agricultural activities (such as dairies). Senate Bill 97 (Chapter 185, 2007) required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. On April 13, 2009, OPR submitted to the Secretary for Natural Resources its recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions, as required by Senate Bill 97. The recommended amendments were developed to provide guidance to public agencies regarding the analysis and mitigation of greenhouse gas emissions and the effects of greenhouse gas emissions in draft CEQA documents. The Natural Resources Agency transmitted the adopted amendments and the entire rulemaking file to the Office of Administrative Law (OAL) on December 31, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010 (OPR 2010). The BAAQMD is currently updating its Air Quality Plan (the BAAQMD Draft 2010 Bay Area Clean Air Plan (CAP)), which will update the 2005 Ozone Strategy Plan and address air quality issues of concern including greenhouse gases. The BAAQMD has recently updated its CEQA Guidelines (the 2010 BAAQMD CEQA Air Quality Guidelines and the Adopted Air Quality CEQA Thresholds of Significance) to provide guidance for addressing project generated GHG emissions impacts under CEQA. The 2010 BAAQMD CEQA Air Quality Guidelines will be used in conjunction with the provisions of AB32 to determine the project's impacts with regard to GHG analysis. Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, recognized that California is the source of substantial amounts of GHG emissions which poses a serious threat to the economic well-being, public health, natural resources, and the environment of California (OPR 2008b). Potential adverse impacts of global warming include severe air quality problems, a reduction in the quality and supply of water from the Sierra snowpack, a rise in sea levels causing the displacement of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems (Health and Safety Code, section 38501) (OPR 2008b). In order to avoid these consequences, AB 32 established a state goal of reducing GHG emissions to 1990 levels by the year 2020 (a reduction of approximately 25 percent from forecast emission levels) with further reductions to

follow.

- a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The construction activities of the project will generate GHG through vehicle exhaust. According to the Sacramento Metropolitan Air Quality Management District (SMAQMD) Road Construction Emissions Model results, construction activities would generate approximately 49.3 (lbs/day) of CO₂. The BAAQMD does not have an adopted threshold of Significance for construction related GHG emissions, however, to provide a comparison, operational GHG emissions are considered significant at 1,100 metric tons (1,213 tons) CO₂ equivalent/yr. Additionally, the project emissions for NO_x were below the adopted threshold of significance for criteria pollutants. As discussed in Air Quality section (a) the project will implement standard BMPs which include measures to reduce emissions from construction vehicles such as minimizing idling times and requiring properly maintained and tuned equipment. Because project emissions of CO₂ are relatively small and of a temporary nature, potential project impacts are negligible. In addition, this is a safety improvement project that once completed would not result in an increased emissions of greenhouse gases because the project would not increase vehicle trips or vehicle miles traveled on the roadway. Therefore, no new regional vehicle emissions would occur. Project impacts are temporary and will not exceed threshold limits therefore project impacts will be **less than significant**.

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

The project will not conflict with applicable policies or plans that are in place to reduce greenhouse gas emissions. The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions but suggests that Lead Agencies quantify and disclose GHG emissions that would occur during construction, and make a determination on the significance of these emissions in relation to meeting AB 32 GHG Reduction Goals. As discussed in the above section impacts (a), the project would not generate quantities of GHG emissions that would hinder achievement of AB 32 goals and therefore would not conflict with an applicable air quality control plan. These impacts are temporary and do not exceed threshold limits, therefore project impacts will be **less than significant**.

VIII. HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
a) Would the project create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?				

The project will not create a significant hazard to the public or the environment because once constructed, the project would not result in routine transport, use or disposal of hazardous materials. There is the potential for a release of hazardous substances from construction equipment operations (e.g., accidental petroleum spills) during construction. Project contract specifications will require that the contractor prepare a Water Pollution Control Plan (WPCP) or Storm Water Pollution Prevention Plan (SWPPP) if appropriate to identify safety and best management practices (e.g., placement of drip pans under stationary equipment, routine equipment inspections, and on-site spill cleanup materials) to prevent accidental releases of hazardous substances and potential worker exposure. In addition, project contract specifications will require the contractor to contact Underground Service Alert (USA) prior to

conducting any work that could potentially impact utilities. Therefore, project impacts will be **less than significant**.

- b) Would the project 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?

As discussed above, once constructed the project would not use or store hazardous materials that would create a significant hazard to the public or the environment. There is the potential for a release of hazardous substances from construction equipment operations (e.g., accidental petroleum spills) during construction. The required preventative measures discussed above will minimize potential impacts to the environment and worker exposure. Therefore, project impacts will be **less than significant**.

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

The project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school because there are no schools located within one-quarter mile. While construction equipment exhaust will generate an increase in air pollutant concentrations, it would be temporary and effects would be negligible due to implementation of air pollution control measures identified in Section III. Air Quality. Therefore, project impacts will be **less than significant**.

- d) Would the project 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?

County staff reviewed the Environmental Protection Agency website that displayed known locations that store or handle hazardous materials (Environmental Protection Agency 2010). The project is not included on a list of hazardous materials sites and would not create a significant hazard to the public or environment. Therefore; project impacts will be **less than significant**.

- 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.

The project is not located within two miles of a public airport. Therefore, the project will have **no impact**.

- 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?

The project is not located in the vicinity of a private airstrip. Therefore, the project will have **no impact**.

- g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan because access for emergency vehicles will be provided at all times. Therefore, project impacts will be **less than significant**.

- h) Would the project 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?

The project will not expose people or structures to a significant risk of loss, injury or death involving wildland fires. The California Department of Forestry Hazard Severity Zones map (2006) identifies the project areas as a high fire hazard zone; however, the project does not include construction of structures that would increase the risk from wildland fires as the purpose of the project is to provide improvements to existing road. Further, safety and best management practices required for construction of the project will identify proper protocol should a fire occur. Therefore, project impacts will be **less than significant**.

IX. HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 (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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 run-off in a manner which would result in flooding on-or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) Would the project violate any water quality standards or waste discharge requirements?

The project will be subject to Clean Water Act requirements and will adhere to construction provisions, precautions, and stipulations as described in the National Pollutant Discharge Elimination System (NPDES) permit that will be obtained under the current Statewide General Permit for Discharges of Storm Water Associated with Construction Activity. In accordance with the provisions of the Construction General Permit, the CCCPWD will require the contractor to prepare and implement a Water Pollution Control Plan (WPCP) to identify BMPs that will reduce discharge of pollutants from construction activities. Further all necessary regulatory permits will be obtained prior to initiation of construction. Therefore, the project impacts will be **less than significant**.

- b) Would the project 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 (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)?

The project will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit aquifer volume or a lowering of the local groundwater table because the project will not involve any withdrawals from an aquifer or the groundwater table. In addition, the project does not require water supplies and will not impact any functioning wells used for water. Therefore, the project will have **no impact**.

- c) Would the project 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?

The project will not alter the course of the two unnamed tributaries to Mount Diablo Creek or any other known stream or river. The overall drainage pattern of the site will not be significantly modified nor will it substantially alter the existing drainage pattern of Marsh Creek or any other known stream or river that would result in substantial on-site or off-site erosion or siltation, since the existing roadway drainage will be reestablished once the road widening is complete and re-connected to existing drainage system. Therefore, project impacts will be **less than significant**.

- d) Would the project 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 run-off in a manner which would result in flooding on-or off-site?

The project will not significantly alter the existing drainage pattern of the site because the existing drainage will be reestablished once the road widening is complete and re-connected to the existing drainage system; any additional surface run-off created due to the widening of Marsh Creek Road will be negligible. In addition, there will be no construction within the flood plain of the two unnamed tributaries flowing to Mount Diablo Creek. Therefore, project impacts will be **less than significant**

- e) Would the project 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?

The project will not contribute to run-off water which would exceed the capacity of existing or planned stormwater drainage systems because the existing drainage will be reestablished once the road widening is complete and re-connected to existing drainage system; any additional surface run-off created due to the widening of Marsh Creek Road will be negligible. No additional vehicle trips will occur as a result of the project and therefore no additional sources of polluted runoff are anticipated. Therefore, the project will have a **less than significant impact**.

- f) Would the project otherwise substantially degrade water quality?

There is the potential to degrade water quality during construction; therefore, best management practices will be utilized during construction to avoid adverse impacts to water quality. Contract specifications will require the appropriate storage, servicing and fueling of construction equipment away from drainage ditches to avoid potentially impacting water quality. Therefore, project impacts will be **less than significant**.

- g) Would the project 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?

The project will not create or place any housing within a 100-year flood plain, because the project will not create any residential structures. In addition no construction related activities will occur within the 100 year flood plain of Mount Diablo Creek (FEMA 100-Year Floodplain Map). Therefore, the project

will have **no impact**.

- h) Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?

The project will not place any structure within the 100-year flood plain of Mount Diablo Creek that could impede or redirect flood flows. Therefore, the project will have **no impact**.

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

The project does not include the construction or alteration of any levees or dams and would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of a failure of a levee or dam. The project area is not located within an area that would be inundated from a dam failure (ABAG 2009), and the project will not result in construction of structures for occupancy. Therefore, the project will have **no impact**.

- j) Would the project the expose people or structures to risk of inundation by seiche, tsunami, or mudflow?

The project is located in East Contra Costa County and not in an area subject to seiche, tsunami, or mudflow. Therefore, the project will have **no impact**.

X. LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or the 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a) Would the project physically divide an established community?

The project will not physically divide an established community because Marsh Creek Road is an existing roadway. Therefore, the project will have **no impact**.

- b) Would the project conflict with any applicable land use plan, policy, or the 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?

The project will not result in an alteration of the present or planned land use of the area. The project is consistent with the County General Plan Transportation Circulation Element's Roadway and Transit Goals #5-A (To provide a safe, efficient and balanced transportation system), Policy #5-9 (Existing circulation facilities shall be improved and maintained by eliminating structural and geometric design deficiencies), and Policy #5-17 (The design and scheduling of improvements to arterials and collectors shall give priority to safety over other factors including capacity). Therefore, the project will have **no impact**.

- c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

The project has been designed and will be constructed in compliance with the East Contra Costa County HCP/NCCP including complying with the conditions for rural road projects such as conducting planning surveys in the project area and proposed rights of way, storing equipment away from sensitive areas, utilizing Best Management Practices during construction, and revegetating cut and fill slopes with native plants (HCP/NCCP Conservation Measure 1.14). Therefore, the project will have **a less than significant impact**.

XI. MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in the loss or availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) Would the project 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?

The project will not impact the availability of mineral resources that would be of value to the state or region. A review of Contra Costa General Plan map F-8 revealed no mapped mineral resources in the project area. While the project will use paving materials (i.e., asphalt, gravel, etc.) derived from natural resources the project is a relatively short stretch (2,900 ft) of roadway. Therefore, the project will have a **Less than significant impact**.

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

There are no mapped mineral resource areas in the project area. As such, the project will not adversely affect the availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or land use plan. Therefore, the project will have **no impact**.

XII. NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of, excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Background:

Section 65302(f) of the California Government Code requires that a noise element be prepared as a part of all city and county general plans. The Contra Costa County General Plan (2005) noise element follows the guidelines established by the California Department of Health Services entitled *Guidelines for the Preparation and Content of the Noise Element of the General Plan*, which defines noise metrics, discusses the process of noise element development, and present land use compatibility guidelines based on various noise levels. This state law requires that a jurisdiction's noise element identify and work toward mitigation of noise problems in the community and include implementation measures and possible solutions that address any existing and perceivable noise problems. Many governmental agencies have promulgated noise standards for various types of projects. The noise element of the County General Plan provides goals, policies, and implementation measures for consideration. Contra Costa County does not have a noise ordinance and therefore, does not specify construction or operational noise level limits. However, the Contra Costa County General Plan (2005) specifies that construction activities shall be concentrated during the hours of the day that are not noise-sensitive for adjacent land uses and should be commissioned to occur during normal work hours. Construction activities are generally limited to the hours between 7 a.m. to 7 p.m.

- a) Would the project cause 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?

The project will not increase ambient noise levels above what already exist once completed since the project is a road safety project and will not increase lane capacity. However, short-term project construction activities will temporarily increase the noise level in the project area. Construction

activities for this project are expected to fall within a typical range for construction activities (between 74 to 90 dBA (A-weighted decibels are abbreviated dB(A) or dBA)) which could be heard by nearby residents (the closest resident is located approximately 400 feet north of the project). As stated above, Contra Costa County does not specify construction noise limits but the General Plan specifies that construction activities shall be concentrated during the hours of the day that are not noise-sensitive for adjacent land uses and should be commissioned to occur during normal work hours. Construction activities will be generally limited to the hours between 7:00 a.m. to 7:00 p.m. with noise-generating activities in excess of 65 dBA further restricted to between the hours of 8:00 a.m. and 5:00 p.m. to reduce impacts to nearby residents. If unforeseen circumstances requiring immediate attention necessitate work outside of these hours, the work shall be approved by the Resident Engineer. The Resident Engineer will be on site and available to address any noise concerns during all construction activities. These working hours will be incorporated as part of the construction contract. Contract specifications will also require the use of properly tuned and muffled equipment to minimize noise due to construction activities. The CCCPWD will notify residents adjacent to the project site by letter prior to construction. The letter will include the hours of construction and the name and telephone number of the Resident Engineer. Therefore, project impacts will be **less than significant**.

- b) Would the project cause exposure of persons to or generation of, excessive ground borne vibration or ground borne noise levels?

Once constructed, ground borne vibration levels are expected to be comparable to current levels that already exist once completed since the project is a road safety project and will not increase lane capacity. During project construction periodic, temporary generation of ground borne vibration may occur. However, equipment typically associated with excessive ground borne vibration, such as pile drivers, will not be used to construct the project. Some ground borne vibration may result from equipment used during construction but will not be excessive based on the types of construction equipment that will be used. Therefore, project impacts will be **less than significant**.

- c) Would the project cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

The project will not result in a significant permanent increase in ambient noise levels because it is limited to a road safety project and will not increase lane capacity. Therefore, the project will have **no impact**.

- d) Would the project cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

As discussed in the above section a, construction activities will result in a temporary increase in ambient noise levels above what exists currently. The contractor will be required to comply with project specifications applicable to local noise level rules, regulations, and ordinances as well as require the use of properly tuned and muffled equipment to minimize noise. Therefore, project impacts will be **less than significant**.

- 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?

The project will not impact an airport land use plan because the project is not located within two miles of an airport. Therefore, the project will have **no impact**.

- 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?

The project is not located in the vicinity of a private airstrip. Therefore, the project will have **no impact**.

XIII. POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) Would the project 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)?

The project will not increase population in the region because it is a road safety project that will not increase road capacity. Therefore, the project will have **no impact**.

- b) Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

The project will not result in the displacement of any homes or residents because no homes will be demolished or removed by the project. Therefore, the project will have **no impact**.

- c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The project will not displace residents because as stated above no residences will be removed or demolished. Therefore, the project would have **no impact**.

XIV. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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?				
1 Fire Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2 Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3 Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4 Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5 Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- 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?

1 Fire Protection?

To alleviate any disruption to local fire protection services during construction, the contractor will contact local fire protection response services prior to project construction and provide at least one passable lane at all times during construction for fire protection vehicles. The proposed improvements will not increase demand for fire protection services. No new government facilities are required. Therefore, project impacts will be **less than significant**.

2 Police Protection?

To alleviate any disruption to police protection services during construction, the contractor will contact local police protection response services prior to project construction and provide at least one passable lane at all times during construction for police vehicles. The proposed improvements will not increase demand for police protection services. No new government facilities are required. Therefore, project impacts will be **less than significant**.

3 Schools?

Based on a review of Contra Costa County Mapping Information Center online maps (CCCMIC), no schools are expected to experience disruptions during construction due to the project's remote location. County staff has estimated the distance between the project and the nearest school (Diablo View Middle School) as approximately 3.0 miles. The proposed improvements will not increase demand for school services. No new government facilities are required. Therefore, the project will have **no impact**.

4 Parks?

The Marsh Creek Road Safety Improvements 1.0 mile East of Russelmann Park Road Project will not require the permanent use of the Mt. Diablo State Park parcel owned by CA State Parks along the west side of Marsh Creek Road or the Black Diamonds Regional Mine Preserve parcel owned by East Bay Regional Parks District along the east side of Marsh Creek Road. The County has corresponded with State Parks and East Bay Regional Parks concerning the project's construction activity, right of way needs, and potential impacts. Furthermore the County has received concurrence with the project's design and the County's intent to minimize harm to existing cultural and biological resources from both agencies. Therefore, impacts will be **less than significant**.

5 Other public facilities?

Review of CCCMIC maps and field reviews of the project site did not identify any other known public facilities in the immediate project area of the project. Therefore, the project will have **no impact**.

XV. RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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Would the project:

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?

☐
☐
☐
☒

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

☐
☐
☐
☒

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?

The project will provide a Class III Bike Route along Marsh Creek Road, however there is no public access to park facilities in the area. Therefore, the project will have **no impact**.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The project does not include the construction or expansion of recreational facilities because the project is a road safety project. In addition, the project will not result in population growth. As such, no construction or expansion of recreational facilities is necessary. Therefore, the project will have **no impact**.

XVI. TRANSPORTATION/TRAFFIC

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a) Would the project 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?

The Marsh Creek Road Safety Improvements 1.0 mile East of Russelmann Park Road project is a rural traffic improvement project and will impact traffic flow during construction, however the below listed traffic management measures and mitigation measures will reduce the impacts to a level that is less than significant. There will be traffic control flaggers onsite to facilitate traffic flow during paving. The County will ensure that at least one lane will remain accessible to the public at all times during project construction and notices of the project's start date and times of construction will be posted in area publications. No lane closure construction activities will be allowed during the morning commute hours (5:30 am to 8:30 am Mon-Fri.). The morning commute hours will be strictly adhered to unless modified upon written approval by the resident engineer. Traffic flow will be controlled by flaggers based on the level of flow from each direction (east or west bound), with increased traffic flow from either direction given priority. It may be necessary during construction that access to the park maintenance road may temporarily be affected (state parks personnel will be provided access to the maintenance road and the

area in front of the gate as needed). Therefore, project impacts will be **less than significant with Mitigation Incorporated**.

Mitigation:

- 1 The Contractor shall use two portable changeable message signs; at least seven days in advance of the project, to notify vehicle traffic of any proposed road closures.
 - 2 The unfinished roadway (one lane in each direction) shall be made passable and open for use by local and emergency traffic at the end of each working day. Unfinished grade shall be compacted to a 90% relative compaction and temporary yellow pavement markers shall be placed as a center line in conformance to the provisions in the "Temporary pavement delineation" section of these special provisions before re-opening the unfinished road to traffic.
 - 3 While the road remains unfinished, the contractor shall place temporary signage to inform traffic of suggested project zone traffic procedures.
 - 4 Illuminated traffic cones will be used during the hours of darkness and shall be affixed or covered with reflective cone sleeves.
 - 5 When construction operations are not actively in progress, two traffic lanes (one in each direction) shall be open to public traffic.
- b) Would the project 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?
- The project does not include elements that could increase traffic on roadways, as such no long term impacts will occur. During lane closures for construction, traffic control measures and the above mentioned mitigation are expected to minimize significant congestion or delays. Therefore, potential project impacts will be **less than significant with Mitigation Incorporated**.
- c) Would the project 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?
- The project will not create a change in air traffic patterns, as there will be no increase in air traffic levels due to this project. The project would pose no substantial safety risk on air traffic, and is not located within the vicinity of an airport. Therefore, the project will have **no impact**.
- d) Would the project substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?
- The project would not increase design feature hazards. The project is designed to provide wider recovery areas, greater sight distances for drivers and improve the overall road safety. Therefore, the project will have **no impact**.
- e) Would the project result in inadequate emergency access?
- The project will not create inadequate emergency access because traffic control measures on Marsh Creek Road will ensure that there is no interference with passing emergency vehicles. The traffic control measures will include using flaggers, signage, alternate routes and clear traffic delineation. Therefore, project impacts will be **less than significant**.

- f) Would the project conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

The project will not conflict with adopted policies, plans or programs supporting alternative transportation because according to the Transit Network Plan (Contra Costa County 2005f) the project is not within a transit corridor and no High Occupancy Vehicle (HOV), Bus or BART lanes routes are currently planned. Upon completion, the project will also include Class III bike lanes that will be established with appropriate bike lane signage and striping. Therefore, project impacts will be **less than significant**.

XVII. UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The project will not exceed wastewater requirements because the project would not result in the need for wastewater treatment. Therefore, the project will have **no impact**.

- b) Would the project 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?

The project will not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities because the completed project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. Therefore, the project will have **no impact**.

- c) Would the project require or result in the construction of new storm water drainage facilities, the construction of which could cause significant environmental effects?

The completed project would reestablish the existing stormwater drainage facilities. Therefore, the project will have **less than significant impact**

- d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The project will have no impact on water supplies in the project area because the completed project would use imported water trucks. Therefore, the project will have **no impact**.

- e) Would the project 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?

The completed project will not require wastewater treatment services. Therefore, the project will have **no impact**.

- f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's waste disposal needs?

Solid waste generated by the project would be limited to construction debris, including asphalt and concrete, generated by the excavation of exiting roadway and construction of associated improvements. Solid waste disposal will occur in accordance with federal, state and local regulations. Disposal of these materials will occur at permitted landfills. The project will not generate the need for a new solid waste facility. Therefore, the project will have **no impact**.

- g) Would the project comply with federal, state and local statutes and regulations related to solid waste?

The project specifications will require that the contractor dispose of solid waste generated from construction in accordance with federal, state and local regulations. Therefore, the project will have **no impact**.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish and 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish and 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?

The County has determined that the impacts to the County's resources and residents as determined in the Biological Resources and Transportation/Traffic sections of this document may have a potentially significant impact unless mitigation measures are implemented. With implementation of the included mitigation measures, the project will not degrade the quality of the environment, nor will it substantially reduce the habitat or affect populations of any fish or wildlife species or eliminate important examples of major periods of California history or prehistory. Therefore, project impacts will be **less than significant with Mitigation Incorporated**.

- 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)?

No other known projects in the area could result in cumulative effects either currently or planned in the near future. Therefore, the project will have **No Impact**.

- c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The Marsh Creek Road Safety Improvements 1.0 mile East of Russelmann Park Road Project is intended to improve the safety of Marsh Creek Road. The County has examined the possible impacts that are associated with the project; using research material, maps, and the reports listed in the source section of this document to analyze the potential impacts to County resources and residents. The mitigation outlined in the above Biological Resources and Transportation/Traffic sections will ensure the project will be **Less Than Significant with Mitigation Incorporated.**

Note: Authority cited: Sections 21083, 21083.05, Public Resources Code, Reference: Section 65088.4, Gov. Code: Sections 21080, 21080.05, 21095. Pub. Resources Code: *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal. App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal. App. 4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal. App. 4th 656.

SOURCES

In the process of preparing the Checklist and conducting the evaluation, the following references (which are available for review at the Contra Costa County Conservation and Development Department, 651 Pine Street 5th Floor-North Wing, Martinez) were consulted:

- 1 The County General Plan (July 2005)
 - a. EIR on the General Plan (2005-2020)
 - b. 9.6 Scenic Resources Section
 - c. Figure 10-2 Mapped Earthquake Faults
 - d. Figure 10-5 Estimated Potential for Liquefaction
 - e. Figure 10-6 Geological (landslides) Hazards
 - f. Figure 5-3 Transit Network Plan
- 2 Soil Survey of Contra Costa County, Soil Conservation Service, September 1977
- 3 FEMA 100-Year Floodplain Map. October 2009
- 4 California Natural Diversity Data Base, California Department of Fish and Game, March 2009
- 5 Field Reviews and Project Description
- 6 Contra Costa County Public Works Geographic Information System, April 2010
- 7 Association of Bay Area Governments Earthquake Maps and Information. May 2009
- 8 Contra Costa County Ortho-photo and GIS Data Map
- 9 Contra Costa County Important Farmland Map 2004, California Department of Conservation Division of Land Resources Protection, 2008
- 10 Contra Costa Resource Mapping System – Quad Sheet Panels for Antioch South Quadrangle, California
- 11 Phase 1 Environmental Site Assessment, Ninyo and Moore, August 2011
- 12 Historic Property Survey Report, LSA Associates, June 2011
- 13 Natural Environment Study/Alternate Biological Assessment/Project Study Report, LSA Associates., July 2010
- 14 California Geological Survey, February 2009
- 15 The Swelling Clays Map Of The Conterminous United States, 1989
- 16 East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan (HCP/NCCP). Jones & Stokes Inc., October 2006
- 17 Environmental Protection Agency. 2010. Sites known to store/handle hazardous materials/hazardous waste. <http://www.epa.gov/enviro/>
- 18 The California Department of Fish and Game (CDFG) Natural Diversity Database (CNDDB) 2009.
- 19 The California Native Plant Society: Electronic Inventory of Rare and Endangered Vascular Plants of California, 2009
- 20 The California's Wildlife, Volume I-III: Amphibians and Reptiles, Birds, Mammals: California Statewide Wildlife Habitat Relationships System, California Department of Fish and Game, Sacramento, 1990
- 21 Corps of Engineers Wetlands Delineation Manual, 2009.
- 22 Association of Bay Area Governments. 2009. Bay Area Dam Failure Inundation Hazards. Website: <http://www.abag.ca.gov/bayarea/eqmaps/damfailure/damfail.html>.
- 23 Mobility of the next Generation: transportation 2030 plan for the San Francisco Bay Area, 2005
- 24 California Department of Forestry Hazard Severity Zones map (2006)
- 25 Road Construction Emissions Model (version 6.3.2), July 2009.
- 26 Contra Costa County, Agricultural Preserve Map, 2007
- 27 BAAQMD
 - a CEQA Guidelines, June 2011
 - b Screening Tables for Air Toxics Evaluation During Construction, May 2010

APPENDIX A – MITIGATION MONITORING AND REPORTING PLAN

RESOURCE	SUMMARY OF AVOIDANCE MEASURES	MONITORING RESPONSIBILITY	TIMING
Air	<p>Avoidance Measure Air-1:</p> <ul style="list-style-type: none"> All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day. All haul trucks transporting soil, sand, or other loose material off-site will be covered. All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. Dry power sweeping will not be used. All vehicle speeds on unpaved roads will be limited to 15 mph. Idling times will be minimized by either shutting equipment off when not in use or reducing the maximum idling time to 5 minutes. Clear signage will be provided for construction workers at all access points. All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified mechanic and determined to be running in proper condition prior to operation. Signs will be posted with the telephone number and person to contact regarding dust complaints. Complaints will be corrected within 48 hours. The sign will also include the BAAQMD phone number to ensure compliance. 	CCCPWD	During construction
Biological	<p>Avoidance Measure Bio-1:</p> <p><u>San Joaquin kit fox – <i>Vulpes macrotis mutica</i>:</u></p> <ul style="list-style-type: none"> If an SJKF den is discovered in the proposed development footprint, the den will be monitored for three days by a USFWS/CDFG– approved biologist using a tracking medium or an infrared beam camera to determine if the den is currently being used Unoccupied dens should be destroyed immediately to prevent subsequent use. If a natal or pupping den is found, UFWS and CDFG will be notified immediately. The den will not be destroyed until the pups and adults have vacated and then only after further consultation with USFWS and CDFG. 	CCCPWD	Prior to and during construction

APPENDIX A – MITIGATION MONITORING AND REPORTING PLAN

RESOURCE	SUMMARY OF AVOIDANCE MEASURES	MONITORING RESPONSIBILITY	TIMING
	<ul style="list-style-type: none"> If SJKF activity is observed at the den during the initial monitoring period, the den will be monitored for an additional five consecutive days from the time of the first observation to allow any resident animals to move to another den while den use is actively discouraged. For dens other than natal or pupping dens, use of the den can be discouraged by partially plugging the entrance with soil such that any resident animal can easily escape. Once the den is determined to be unoccupied it may be excavated under the direction of the biologist. Alternatively if the animal is still present after five or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of the biologist, it is temporarily vacant (i.e., during the animal's normal foraging activities). If dens are identified in the survey area outside the proposed disturbance footprint, exclusion zones around each den entrance or cluster of entrances will be demarcated. The configuration of exclusion zones should be circular, with a radius measured outward from the den entrance(s). No activities will occur within the exclusion zones. Exclusion zone radii for potential dens will be at least 50 feet and will be demarcated with four to five flagged stakes. Exclusion zone radii for known dens will be at least 100 feet and will be demarcated with staking and flagging that encircles each den or cluster of dens but does not prevent access to the den by SJKF. 		

APPENDIX A – MITIGATION MONITORING AND REPORTING PLAN

RESOURCE	SUMMARY OF AVOIDANCE MEASURES	MONITORING RESPONSIBILITY	TIMING
	<p>Avoidance Measure Bio-2:</p> <p><u>Golden Eagle - <i>Aquila chrysaetos</i>:</u></p> <ul style="list-style-type: none"> In accordance with HCP/NCCP requirements, a preconstruction survey for golden eagle nests would be conducted. The BSA would be surveyed no more than 1 month in advance of construction to establish whether golden eagle have occupied nests within 0.5 mile of the project site. Occupancy of nests will be determined by observation from the BSA and public roads or by observations of golden eagle activity (e.g., foraging) near the project site. No construction would occur within 0.5 mile of an active nest until the young have fledged. The size of the buffer may be decreased depending on site-specific conditions and verified by CDFG and USFWS. Monitoring is required to ensure that construction does not occur within the buffer. 	CCCPWD	Prior to construction
	<p>Avoidance Measure Bio-3</p> <p><u>Swainson's Hawk –<i>Buteo swainsoni</i>:</u></p> <ol style="list-style-type: none"> Prior to any project-related ground disturbance that occurs during the Swainson's hawk nesting season (March 15-September 15), a CDFG-approved biologist will conduct a pre-construction survey no more than one month prior to construction to establish whether Swainson' hawk nests within 1,000 feet of the project site are occupied. If potentially occupied nests exist within 1,000 feet of the project action area, then their occupancy will be determined by observation from public roads or by observations of Swainson's hawk activity near the action area. 		

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RESOURCE	SUMMARY OF AVOIDANCE MEASURES	MONITORING RESPONSIBILITY	TIMING
	<p>3. If an active nest is found after the completion of the pre-construction surveys and after construction begins, all construction activities within the area will stop until a qualified biologist has evaluated the nest and erected the appropriate buffer around the nest.</p> <p>4. If establishment of the buffer is not feasible, CDFG/USFWS will be contacted for further avoidance and minimization guidelines.</p> <p>5. If nests are occupied, minimization measures and construction monitoring are required:</p> <ul style="list-style-type: none"> During the nesting season, covered activities within 1,000 feet of occupied nests or nests under construction will be prohibited to prevent nest abandonment. If site-specific conditions or the nature of the covered activity (e.g., steep topography, dense vegetation, and limited activities) indicate that a smaller buffer could be used, the Implementing Entity will coordinate with CDFG/USFWS to determine the appropriate buffer size. If young fledged prior to September 15, covered activities can proceed normally. If the active nest site is shielded from view and noise from the project site by other development, topography, or other features, the County can apply to the Conservancy for a waiver of this avoidance measure. Any waiver must also be approved by USFWS and CDFG. While the nest is occupied, activities outside the buffer can take place. 		

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RESOURCE	SUMMARY OF AVOIDANCE MEASURES	MONITORING RESPONSIBILITY	TIMING
	<p>Avoidance Measure Bio-4:</p> <p><u>White-tailed Kite- <i>Elanus leucurus</i>:</u> The nests of all native bird species are protected under the federal MBTA and California Fish and Game Code. Under this legislation, destroying active nests, eggs, and young is illegal. The following measures would be implemented.</p> <ul style="list-style-type: none"> • To the extent feasible, vegetation removal activities shall not occur during the breeding season of March 1 through August 31. • If vegetation removal must occur during the breeding season, all sites shall be surveyed by a qualified biologist to verify the presence or absence of nesting birds. • Pre-construction surveys shall be conducted not more than seven days prior to the start of work from March 1 through August 31. • If the survey indicates the potential presence of nesting birds, the biologist shall determine an appropriately sized buffer around the nest in which no work will be allowed until the young have successfully fledged. • The size of the nest buffer will be determined by the biologist in consultation with the CDFG. In general, buffer sizes of 250 feet for raptors should suffice to prevent disturbance to (nesting) birds. 	CCCPWD	Prior to and during construction

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RESOURCE	SUMMARY OF AVOIDANCE MEASURES	MONITORING RESPONSIBILITY	TIMING
	<p>Avoidance Measure Bio-5: <u>Western Burrowing Owl- <i>Athene cunicularia</i></u></p> <ul style="list-style-type: none"> • Prior to any ground disturbance related to covered activities, a USFWS/CDFG approved biologist will conduct a preconstruction survey within the proposed project site and a 500-foot radius from the perimeter of the project site to identify burrows and owls in accordance with CDFG survey guidelines. Adjacent parcels under different land ownership will not be surveyed. Surveys are required to take place near sunrise or sunset in accordance with CDFG guidelines. • Surveys will take place no more than 30 days prior to construction. During the breeding season (February 1– August 31), surveys will document whether burrowing owls are nesting in or directly adjacent to disturbance areas. During the nonbreeding season (September 1–January 31), surveys will document whether burrowing owls are using habitat in or directly adjacent to any disturbance area. Survey results will be valid only for the season (breeding or nonbreeding) during which the survey is conducted. All burrows or burrowing owls will be identified and mapped. • If burrowing owls are found during the breeding season (February 1–August 31), the project will avoid all nest sites that could be disturbed by project construction during the remainder of the breeding season or while the nest is occupied by adults or young. Avoidance will include establishment of a nondisturbance buffer zone, described below. Construction may occur during the breeding season if a qualified biologist monitors the nest and determines that the birds have not begun egg-laying and incubation or that the juveniles from the occupied burrows have fledged. During the nonbreeding season (September 1– January 31), the project should avoid the owls and the burrows they are using, if possible. Avoidance will include the establishment 	CCCPWD	Prior to and during construction

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RESOURCE	SUMMARY OF AVOIDANCE MEASURES	MONITORING RESPONSIBILITY	TIMING
	<p>of a buffer zone, which is described below.</p> <ul style="list-style-type: none"> If occupied burrows for burrowing owls are not avoided, passive relocation will be implemented. Owls should be excluded from burrows in the immediate impact zone and within a 160-foot buffer zone by installing one-way doors in burrow entrances. The doors should be in place for 48 hours prior to excavation, and the project site should be monitored daily for one week to confirm that the owl has abandoned the burrow. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation in accordance with CDFG guidelines. Plastic tubing or a similar structure should be inserted in the tunnels during excavation to maintain an escape route for any owls inside the burrow. 		
	<p>Avoidance Measure Bio-6: <u>Pallid Bat- <i>Antrozous pallidus</i></u> The proposed project could affect pallid bats if the species were to establish day or night roosts within large trees on the site prior to the commencement of work. To avoid harm to this species, the following measures shall be implemented:</p> <ul style="list-style-type: none"> All potential roosting trees within the project site shall be surveyed for the presence of bat roosts by a qualified biologist. The survey may entail direct inspection of the trees or nocturnal surveys, and shall be conducted no more than two weeks prior to the initiation of tree removal and ground disturbing activities. If no roosting sites are present, then trees shall be removed within two weeks following the survey. If roosting sites are present and occupied, then a qualified biologist shall determine the species of bats present. If the bats are not found to be pallid bats or any other special-status bat species, then the bats may be evicted from roosts in trees that are to be removed using methods developed by a biologist experienced in bat mitigation 	CCCPWD	Prior to Construction

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RESOURCE	SUMMARY OF AVOIDANCE MEASURES	MONITORING RESPONSIBILITY	TIMING
	<p>and exclusion plans. The biologist shall prepare an eviction plan detailing the methods of excluding bats from the roost(s) and the methods to be used to secure the existing roost site(s) to prevent its reuse prior to removal. Removal of the roost(s) shall only occur after the eviction plan has been approved by CDFG.</p> <ul style="list-style-type: none"> • Tree removal surrounding roost trees shall be conducted without damaging the roost trees. • No diesel or gas-powered equipment shall be stored or operated directly beneath a roost site. 		
	<p>Avoidance Measure Bio-7:</p> <p><u>Townsend's Western Big-eared Bat - <i>Corynorhinus townsendii townsendii</i></u></p> <p>The proposed project could affect Townsend's big-eared bats if the species were to establish day, night or maternity roosts within large trees on the site prior to the commencement of work.</p> <ul style="list-style-type: none"> • In accordance with the HCP/NCCP, a preconstruction survey would be conducted to determine whether the trees are occupied immediately prior to construction or whether they show signs of recent previous occupation. • The preconstruction surveys would determine what avoidance and minimization requirements are triggered before construction and whether construction monitoring is necessary. • In accordance with the HCP/NCCP, if the species is discovered or if evidence of recent prior occupation is established, construction will be scheduled such that it minimizes impacts on Townsend's big-eared bat. 		

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RESOURCE	SUMMARY OF AVOIDANCE MEASURES	MONITORING RESPONSIBILITY	TIMING
	<ul style="list-style-type: none"> Hibernation sites with evidence of prior occupation will be sealed before the hibernation season (November–March), and nursery sites will be sealed before the nursery season (April–August). If the site is occupied, then the action will occur either prior to or after the hibernation season for hibernacula and after August 15 for nursery colonies. Construction will not take place as long as the site is occupied. 		
	<p>Avoidance Measure Bio-8:</p> <p><u>Ringtail- <i>Bassariscus astutus</i></u></p> <p>Under the Fish and Game Code, take is prohibited of all Fully Protected species such as ringtails. The proposed project could potentially result in take of individual ringtails if they were to establish dens (hollowed trees or hollow logs) on the site. Therefore, prior to the start of work, a pre-construction survey shall be conducted by a qualified biologist of all potentially suitable den sites (i.e. tree hollows and logs) within the project site. Any occupied dens shall be flagged, and the biologist shall prepare a ringtail passive relocation plan subject to the approval of CDFG. The commencement of construction work shall be delayed until one of the following has occurred:</p> <ul style="list-style-type: none"> If the biologist has documented that ringtails have voluntarily vacated the den site, then construction may begin within 7 days following this observation. If the den is not vacated within 20 observation days, then the biologist may commence passive relocation in accordance with the CDFG approved relocation plan. No relocation shall be conducted during the early pup-rearing season of May 1 to June 15. 	CCCPWD	Prior to construction

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RESOURCE	SUMMARY OF AVOIDANCE MEASURES	MONITORING RESPONSIBILITY	TIMING
	<p>Avoidance Measure Bio-9:</p> <p><u>San Francisco Dusky-footed Woodrat - <i>Neotoma fuscipes annectens</i></u></p> <ul style="list-style-type: none"> • If the woodrat is identified on the site it will be captured by a qualified biologist with a live trap. • Immediately after the capture of the woodrat, its nest shall be physically moved with a piece of heavy equipment, such as a front end loader, to a location outside of the project site but as close to the original nest location as possible. • The nest shall be placed in the understory of the woodland in or beside dense understory shrubs. Care shall be taken to disturb the nest as little as possible during the moving process. Such care may require that the front end loader scoop into the substrate beneath the nest. • Immediately after the nest has been moved, the woodrat shall be released at its new nest site. • If trapping is unsuccessful after a good faith effort and if there is no evidence that the nest is inhabited by the woodrat the woodrat nest shall be moved as described above. 	CCCPWD	Prior to construction
	<p>Avoidance Measure Bio-10:</p> <p><u>The Migratory Bird Treaty Act of 1918:</u></p> <ul style="list-style-type: none"> • Any vegetation removal or tree trimming should be conducted during the non-breeding season between August 1 and March 1. If vegetation removal is to be performed during the breeding season, a pre-construction nest survey will be conducted within 14 days prior to the onset of construction to identify any active nests within the project area. • If an active nest is found, a 50 ft. radius minimum exclusion zone around the active nest would be installed and would remain in place until all young have fledged. • A qualified biologist will determine when the nests are no longer active. If the 50 ft. exclusion zone is not feasible the Department of Fish and Game and the U.S. Fish and 	CCCPWD	Prior to construction

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RESOURCE	SUMMARY OF AVOIDANCE MEASURES	MONITORING RESPONSIBILITY	TIMING
	<p>Wildlife Service will be contacted for further guidance.</p> <ul style="list-style-type: none"> If an active nest of a raptor species is found, a 250 foot minimum radius exclusion zone around the nest will be installed. A qualified biologist will determine when the nests are no longer active. If the 50 ft. (for passerines) and 250 foot (for raptors) exclusion zone is not feasible the Department of Fish and Game and the U.S. Fish and Wildlife Service will be contacted for further guidance. 		
	<p>Avoidance Measure Bio-11:</p> <p><u>General HCP Avoidance and Minimization Measures</u></p> <p>The project falls into the "Other Road Safety Improvements Subject to Design" project category listed in the HCP (Table 6-6); therefore the following measures are required:</p> <ol style="list-style-type: none"> 1. Siting the project in the least sensitive location 2. Siting equipment storage areas away from sensitive areas 3. Conducting wildlife surveys well ahead of project design 4. Utilizing the latest research in design requirements 5. Follow applicable Best Management Practices (silt fencing, sediment control, etc.) 6. Control roadside vegetation adjacent to open spaces 7. Revegetate cut/fill slopes with native vegetation 		

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RESOURCE	SUMMARY OF MITIGATION MEASURE	MONITORING RESPONSIBILITY	TIMING
Biological	<p>Mitigation Measure Bio-1:</p> <p><u>Swainson's Hawk –Buteo swainsoni:</u> Nest trees lost to HCP/NCCP covered activities would be mitigated as described below. The HCP/NCCP does not contain provisions for mitigation of impacts to foraging habitat.</p> <p>The HCP/NCCP stipulates that 15 saplings should be planted for every nest tree lost. Monitoring of trees planted as mitigation for the removal of Swainson's hawk nest trees would occur annually for 5 years and then every other year until year 12. At the end of 12 years, 5 of those saplings should be living. During the last 3 years of monitoring, the trees should not be irrigated. The details of implementing the mitigation are explained in the HCP/NCCP (Jones and Stokes 2006).</p>	CCCPWD	Prior to construction award

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RESOURCE	SUMMARY OF MITIGATION MEASURE	MONITORING RESPONSIBILITY	TIMING
Biological	<p>Mitigation Measure Bio-2:</p> <p>HCP/NCCP Compensatory Mitigation</p> <p>Compensatory mitigation for impacts to listed species and their habitats will be achieved through payment of a Development Fee as well as an additional Wetland Fee. The fees will be paid to the HCP/NCCP Conservancy prior to the start of construction. These project specific wetland and development mitigation fees will enable the program-level implementation of conservation measures defined by the HCP/NCCP to enhance and restore wetland resources, manage grassland habitat and manage the prey base in grasslands.</p> <p><u>Development Fee:</u> The project falls within Zone 2 (Natural Lands) of the HCP/NCCP Zone Map. When the NES/BA was prepared, the rate for Zone 2 was \$21,462 /acre. Considering both permanent and temporary impacts, the estimated development fee for the project is approximately \$28,331.46.</p> <p><u>Wetland Fee:</u> The project is expected to impact two habitat types that are subject to the wetland mitigation fee: Seasonal Wetland and Ephemeral Stream. At the time the NES/BA was drafted, the total wetland impact fee was estimated to be approximately \$78,647.15.</p>		

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RESOURCE	SUMMARY OF MITIGATION MEASURE	MONITORING RESPONSIBILITY	TIMING
Transportation and Traffic	<p>Mitigation Measure Traf-1: There will be traffic control flaggers onsite to facilitate traffic flow during this paving. The County will ensure that at least one lane will remain accessible to the public at all times during project construction and notices of the projects start date and times of construction will be posted in area publications. No lane closure construction activities will be allowed during the morning commute (5:30am to 8:30am Mon-Fri.) hours. Traffic flow will be controlled by flaggers based on the level of flow from each direction (east or west bound), with increased traffic flow from the either direction given priority. It may be necessary during construction, to partially close the park entrance for an estimated half day to pave the entrance lane. The County will implement the following mitigation measures:</p> <ul style="list-style-type: none"> • The Contractor shall use two portable changeable message signs; at least seven days in advance of the project. • The full width of the unfinished roadway shall be made passable and open for use by local and emergency traffic at the end of each working day. Unfinished grade shall be compacted to a 90% relative compaction and temporary yellow pavement markers shall be placed as a center line in conformance to the provisions in the "Temporary pavement delineation" section of these special provisions before re-opening the unfinished road to traffic. • While the road remains unfinished, the contractor shall place temporary signage to inform traffic of suggested project zone traffic procedures. • Illuminated traffic cones will be used during the hours of darkness and shall be affixed or covered with reflective cone sleeves. • When construction operations are not actively in progress, two traffic lanes (one in each direction) shall be open to public traffic. 	CCCPWD	During construction