

3.1 Aesthetics

Table 3.1-1 Aesthetics Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.1.1 Setting

The Palermo–East Nicolaus 115-kV Transmission Line Project would be located in the northern Sacramento Valley in Butte, Sutter, and Yuba Counties. The project would run approximately 40 miles from the Palermo Substation at the eastern edge of the town of Palermo in southern Butte County southwards to the East Nicolaus Substation in the town of East Nicolaus in Sutter County.

The existing double-circuit 115-kV transmission line is carried by lattice steel towers (LSTs). The project would entail the replacement of the approximately 75- to 95-foot tall LSTs on the existing Palermo-East Nicolaus transmission line with approximately 85- to 120-foot tall hybrid steel poles (hybrid poles) and tubular steel poles (TSPs) and 85-foot tall lattice steel poles (LSPs). The span lengths will be altered slightly from the existing spans. Of the existing 320 towers, approximately 265 would be replaced with steel poles, and approximately 40 would remain in place. The total number of structures would be reduced by approximately 15 (Table 1.8-2).

The Palermo-East Nicolaus Transmission Line runs parallel to the single-circuit 115-kV Palermo-Pease Transmission Line carried by LSTs. The project would also require the replacement of five existing 75-foot LSTs and the removal of two LSTs (Table 1.8-3) on the adjacent single-circuit line with new steel poles for consistency with the spans on the Palermo-East Nicolaus 115-kV Transmission Line.

Construction of the project would require approximately sixteen lay-down/staging/helicopter landing zone areas ranging from 1.24 to 7.41 acres each and sixteen pull sites ranging from 0.27 to 2.4 acres each (Table 1.8-8). Access to staging areas would rely primarily on existing roadways suitable for truck traffic; however, the project would require the construction of some temporary access roads as well as improvements to existing access roads. Improvements to existing roads include the widening of roadways to 16 feet. All land disturbed by the project would be reseeded to restore the landscape to its preexisting condition.

The majority of the route passes through unincorporated portions of Sutter, Yuba, and Butte Counties. The lands can be classified as agricultural lands with scattered rural residences and associated agricultural structures. Urbanized areas along the route include Marysville, Linda, Olivehurst, and Palermo. The

project route also passes alongside the edge of Yuba Community College. In southern Yuba County, the route passes within two miles of the Lake of the Woods State Wildlife Area.

The project area offers distant views of the Sierra Foothills and the Sutter Buttes. The Butte County General Plan recognizes the scenic qualities of the Sierra Foothills and the extensive scenic views that are available of the foothills and mountains toward the east from the valley but does not contain specific policies to protect those visual resources (Butte County 2000). The Sutter County General Plan identifies the Sutter Buttes as a visual resource and directs development to preserve views of this distinctive landform (Sutter County 1996).

The route crosses several rivers and creeks including the Bear River and the Ping Slough in Sutter County; the Yuba River (near Marysville) and Jack Slough in Yuba County; North and South Honcut Creeks on the border between Yuba and Butte Counties; and Wyandotte Creek and the Wyman Ravine in Butte County. The Yuba County General Plan describes the Bear Creek and Yuba River corridors as “visually appealing” to many people (Yuba County 1996).

The project route would not cross or pass within the viewshed of any designated or eligible state scenic highways. In Butte County, Highway 70 north of Highway 191 and, in Yuba County, Highway 49 are located 10 and 25 miles from the project, respectively, and are both considered eligible state scenic highways. Sutter County has no officially designated or eligible state scenic highways.

Highway 20 is a proposed Yuba County scenic route (Yuba County 1968). State Highway 70/Marysville Bypass to the Butte County line and State Highway 49 (Yuba County 1968) is a potentially eligible new corridor within Yuba County. The project would be located more than two miles from all other designated or eligible scenic routes within Yuba County. The Yuba County General Plan Open Space and Conservation Element Policy 34-OSCP protects scenic qualities from the county’s roads, specifically addressing outdoor advertising and parking facilities.

The Marysville General Plan recognizes Highway 70 crossing the Yuba River Bridge as providing a scenic view of the Yuba River (City of Marysville 1985). The Plan does not include specific policies pertaining to development along or within viewshed of the Yuba River Bridge. The project route would be located approximately 2.5 miles from the bridge.

The route would not cross or lie in proximity to a Butte County scenic highway. The Land Use Element of the Butte County General Plan identifies Highway 70 north of 149 as a county scenic highway (Butte County 2000). This portion of the roadway is located approximately 11 miles from the northern terminus of the project and nine miles from the northernmost point of the project.

The project route would be located within the vicinity of Highway 20 in Sutter County. The Land Use Element of the Sutter County General Plan requires that development along Highway 20 protect views of the Sutter Buttes in the background (Sutter County 1996). Additionally, the Sutter County General Plan is in the process of being updated. The 2008 Background Report for the Sutter County General Plan update identifies a number of visually and aesthetically scenic roadways throughout Sutter County. These consist of roadways such as those around and through the Sutter Buttes and those along the Sacramento and Feather Rivers (Sutter County 2008). There are no policies currently in place to designate these as county scenic roadways.

Landscape Units

Landscape Units are distinct visual environments traversed by the project. Landscape units have been identified for purposes of documenting and describing the project’s foreground viewshed. Within each

distinct Landscape Unit are homogenous topographic, vegetation, and/or development patterns that visually distinguish the unit from surrounding areas.

The project would be located within three Landscape Units (Figure 3.1-1). The Landscape Units are described below, and photos of typical views within these areas are shown in Figures 3.1-2a through 3.1-2e. Landscape Unit 1 encompasses the Palermo Substation (the route's northern terminus) and the route down to its Highway 20 crossing in Yuba County. Landscape Unit 2 covers the route from the Highway 20 crossing to McGowan Parkway near Highway 70 in Olivehurst. Unit 3 runs from McGowan Parkway to the route's southern terminus outside of the town of East Nicolaus in Sutter County.

Landscape Unit 1: Palermo Substation to Highway 20

Landscape Unit 1 runs from the Palermo Substation to where the route crosses Browns Valley Road (Highway 20) on the outskirts of Marysville. The route crosses through the southern limits of the City of Oroville, but the majority of views are characterized by the lower Sierra foothill community of Palermo and the farmland in the northern Sacramento Valley.

The visual setting in this unit is a gently rolling landscape of mature forests giving way to creeks and low-lying grasslands that make up the valleys of the Wyandotte and Honcut Creeks. Elevations along the northern portion of the route reach almost 400 feet, whereas the center of Palermo lies at about 160 feet and farmlands further south vary between 60 to 150 feet. The area is sparsely populated outside of the town of Palermo. Views of the project are available from a small number of residences and agricultural buildings.

Vegetation outside of the town of Palermo consists of grasslands and farms, riparian corridors and orchards. The route crosses several waterways including South Honcut Creek and Jack Slough. Riparian trees such as cottonwoods are characteristic of the vegetation in these areas. The Sutter Buttes provide a distinctive landscape backdrop feature in ~~eastern~~ **western**-facing views from some locations within this landscape unit. The Buttes lie approximately 12 miles away from the southern end of this unit.

The Palermo Substation is located in a flat area off of Stageline Road, west of Drescher Tract Road. The substation is visible from adjacent properties (Photo 1). More distant views of the project route from the south, east, and west are screened by vegetation and topography. Limited views toward the substation are available from the north, including views from the Feather Falls Casino and the associated Kampgrounds of America campground on Lower Wyandotte Road 0.75 miles away. Due to an intervening low and forested ridge that reaches about 400 feet in elevation, the substation is not visible from most of the town of Palermo, located 1.5 miles to the southwest.

The project route follows an existing transmission route for approximately 1.5 miles from the substation west then northwest, crossing Upper Palermo Road (and Pinecrest Road). The project route parallels three existing routes at this point (Photo 2), then turns southwest near the intersection of Lincoln Boulevard and Ophir Road, and from Ophir Road proceeds approximately 1.5 miles southwest, where it crosses Lincoln Boulevard near Firloop Circle (Photo 3). It continues southeast for about 1.3 miles between the railroad corridor and Railroad Avenue. Photo 4, taken from Baldwin Avenue at Railroad Avenue represents views from this area looking west toward the project. A half mile south of South Villa Avenue, at what would be the extension of Louis Avenue, the line crosses the Union Pacific Railroad tracks and continues on the west side of the tracks. As shown in Photos 5 and 7, for most of this Landscape Unit the route runs within 100 feet west of the Union Pacific Railroad corridor.

In Landscape Unit 1, the route crosses various local roads including Cox Lane, Central House Road, Middle and Lower Honcut Roads, Ramirez Road, Ellis Road, Kimball Lane, and Jack Slough Road.

These rural roads connect residents of the area to Highway 70 and to the towns of Palermo, Honcut, Wyandotte, and Gridley. Photo 6 shows the crossing at Lower Honcut Road, a well-traveled roadway that joins Honcut to the east with Highway 70. As shown in Photo 8, at the southern end of the unit, the route crosses Highway 20.

Distant views of the project are also available from the heavily traveled Palermo-Honcut Highway and from Highway 70. Palermo-Honcut Highway runs parallel to the route approximately one to three miles to the east, and Highway 70 runs parallel to the route one to three miles to the west.

Landscape Unit 2: Highway 20 to McGowan Parkway

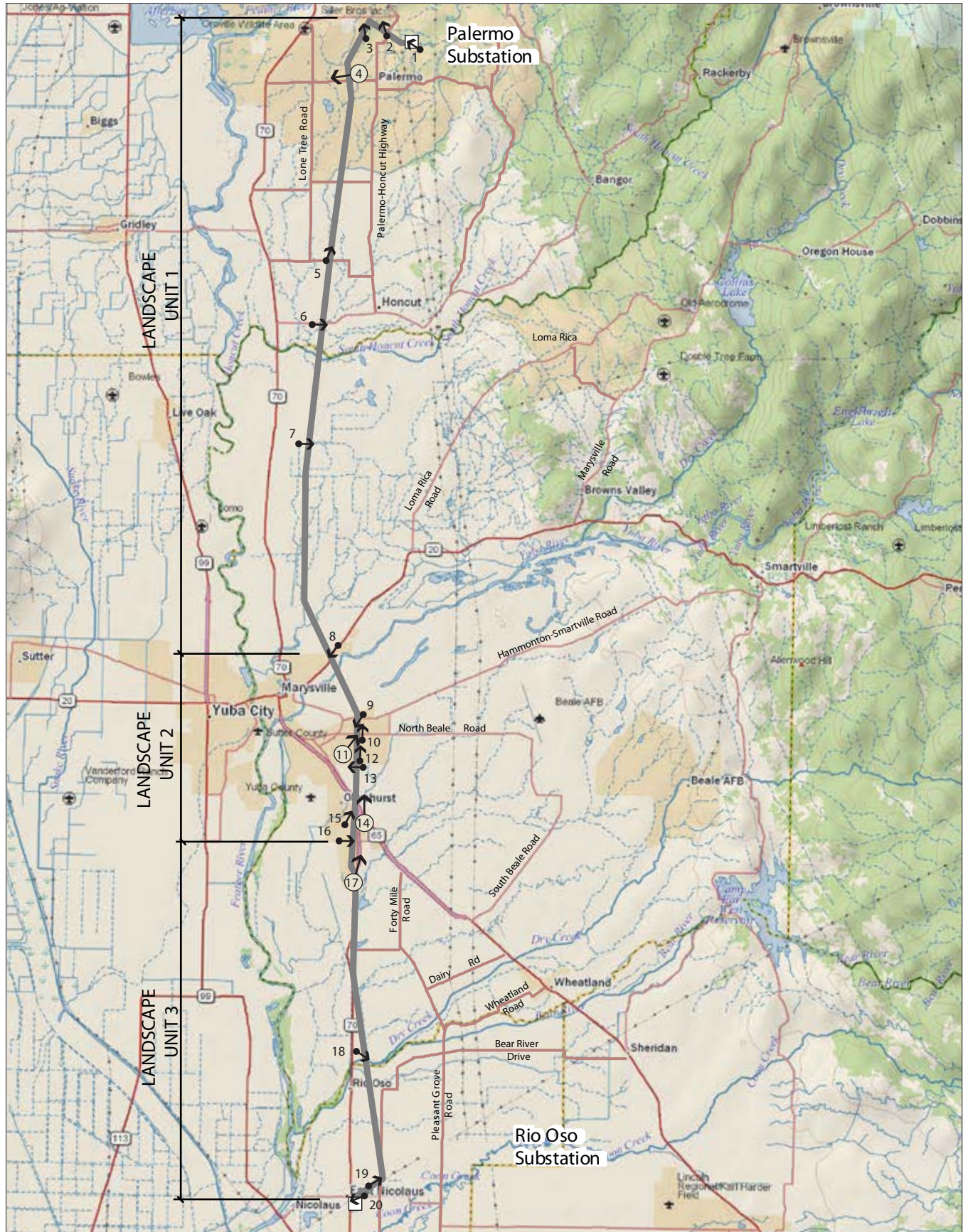
Landscape Unit 2 runs approximately six miles from Browns Valley Road (Highway 20) near the northeast edge Marysville to the Highway 70 route crossing at McGowan Parkway in Olivehurst. Landscape Unit 2 includes the most populated areas of project corridor, passing through the communities of Linda and Olivehurst as well as the city limits of Marysville. Elevations in this area are fairly constant, ranging from approximately 55 to 75 feet above sea level.

Highway 20, a proposed Yuba County scenic route, runs east and west and connects smaller foothill communities with Marysville and Yuba City. Views from Highway 20 encompass low-lying farmlands as well as distant views of the Sierra Nevada foothills and the Sierra Buttes. In this area, the line passes within 0.25 miles of an existing residential area. Where the route briefly crosses through Marysville, views of the transmission line are screened by a levee that separates the residential areas from farmland to the northeast.

After crossing Highway 20, the route runs southeast for about two miles and crosses the Yuba River and orchard land before entering the residential community of Linda, a suburb of Marysville. On the north edge of Linda the route passes through the Peach Tree Golf & Country Club, a private club built in 1960.

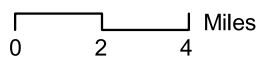
Near Linda the route crosses a number of local and regional roadways including Hammonton-Smartville Road (shown in Photo 9), North Beale Road (an entry road for Beale Air Force Base), and Erle Road (Photo 13). For slightly more than 1.5 miles the project traverses the Linda community passing adjacent to the Yuba Community College campus (Photo 10). Photo 11 and Photo 12, respectively, are views from a recently built suburban development and a nearby walking trail in Linda.

Highways 65 and 70 are heavily-traveled north-south-running routes that connect Roseville and Sacramento with the communities of Lincoln and the Marysville/Yuba City area. Photo 14, taken from Highway 65, shows the project route where it crosses near the junction of the two highways. This view includes existing lattice towers of the project line along with a parallel transmission line as well as existing distribution lines. After this roadway crossing, the project route continues parallel to and within 0.25 miles of Highway 70. At this location the route enters Olivehurst, where it also travels parallel to and within 100 feet of a residential area along Powerline Road for one mile. Photo 15, taken from Yuba Gardens School on Powerline Road near 11th Avenue shows a view of this area. Photo 16 shows the route at McGowan Parkway just before its second Highway 70 crossing.



Source: DeLorme

PALERMO-EAST NICOLAUS 115-KV TRANSMISSION LINE



- 1 ● → Photo Viewpoint
- ③ → Simulation Viewpoint

Figure 3.1-1
Photo Viewpoint Locations

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1. Stageline Road looking northwest toward Palermo Substation



2. Upper Palermo Road at Pinecrest Road looking northwest



3. Lincoln Boulevard at Firloop Circle looking north



4. Baldwin Avenue at Railroad Avenue looking west*

*Simulation shown in Figure 3.1-3

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5. Central House Road at route crossing looking northeast



6. Lower Honcut Road east of Highway 70 looking east



7. Ramirez Road east of Highway 70 looking east



8. Highway 20 westbound looking southwest

PALERMO–EAST NICOLAUS 115-KV TRANSMISSION LINE

Figure 3.1-2b

Landscape Unit 1: Visual Character Photographs

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9. Hammonton-Smartville Road near crossing looking southwest



10. Yuba Community College looking north toward North Beale Road



11. Fernwood Drive near Wildwood Drive looking northeast*



12. River Bank Drive near pedestrian path looking north

*Simulation shown in Figure 3.1-4

PALERMO–EAST NICOLAUS 115-KV TRANSMISSION LINE

Figure 3.1-2c

Landscape Unit 2: Visual Character Photographs

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13. Erle Road near Edgewater Circle looking west



14. Highway 70 northbound at Highway 65 merge looking north*



15. Powerline Road at Yuba Gardens School looking northeast



16. McGowan Parkway at Powerline Road looking east

*Simulation shown in Figure 3.1-5

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17. Highway 70 northbound looking northeast*



18. Chalice Creek Drive looking southeast



19. Watts Avenue near Pacific Avenue looking northeast



20. East Nicolaus Substation (from East Nicolaus Avenue and Highway 70)

*Simulation shown in Figure 3.1-6

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Landscape Unit 3: McGowan Parkway to East Nicolaus Substation

Landscape Unit 3 extends approximately 12 miles from McGowan Parkway to the East Nicolaus substation. Although the route passes through a newer residential development in the northern portion, this unit's landscape is generally characterized by unpopulated agricultural areas typified by grasslands and rice fields. Railroad tracks, rural roads, and levees punctuate the landscape setting. The route crosses several waterways including the Bear River located at the border of Yuba and Sutter Counties and Yankee Slough. Elevations in this relatively flat landscape range between 40 and 60 feet above sea level.

For most of this unit, the route runs parallel to and within 0.25 miles of Highway 70. Approximately one mile south of McGowan Parkway, the route crosses Highway 70 (Photo 17). The existing transmission route continues to be one of two parallel lines supported by lattice towers throughout this unit.

As shown in Photo 18, south of Plumas Arboga Road the project route passes near several recently built residential developments along Highway 70 in the historic Plumas Lake area. In this area the route crosses then runs parallel to the Western Pacific Railroad tracks until it turns west at Pacific Avenue north of Watts Avenue.

The East Nicolaus substation on El Centro Boulevard (Highway 70) is the project's southern terminus and is situated in an area of residential, light industrial, commercial, and farmland in the East Nicolaus community (Photo 19). Photo 20, taken from approximately 200 feet away, shows a Highway 70 view looking toward the East Nicolaus Substation.

Key Observation Points

The photos or Key Observations Points (KOPs) described to illustrate the Landscape Units crossed by the project represent typical views of the project components and views from sensitive locations. These KOPs are used to help establish the baseline for the existing visual resources. The project's potential to change the visible landscape and likely viewer responses to those changes are compared using simulations of the project components prepared for select KOPs.

Simulations were prepared for four KOPs. The four simulation vantage points are delineated on Figure 3.1-1. They include the view from Baldwin Avenue and Railroad Avenue in Palermo (Viewpoint 4); the view from Fernwood Drive near Wildwood Drive in Linda (Viewpoint 11); the view from Highway 70 northbound at Highway 65 (Viewpoint 14); and the view from Highway 70 northbound near Algodon Road (Viewpoint 17). Existing views from these locations are described in greater detail below.

KOP 4: View from Baldwin Avenue and Railroad Avenue

KOP 4 (Figure 3.1-3) provides a view from Baldwin Avenue at Railroad Avenue in the town of Palermo, looking west toward the project and the railroad corridor. This vantage offers an unobstructed view of two existing 75- to 80-foot tall lattice towers. The tower on the left is situated within the project route while the structure seen to the right is associated with the adjacent existing transmission line. Large mature trees situated along Railroad Avenue are prominent in the foreground and scattered large trees and smaller orchard trees form the landscape backdrop seen beyond the railroad corridor.

KOP 11: View from Fernwood Drive near Wildwood Drive

KOP 11 (Figure 3.1-4) provides a view of the project from Fernwood Drive near Wildwood Drive. Existing residences are visible in the foreground. On the right in the background, two existing lattice towers appear against the sky behind the residences. The existing lattice tower situated within the project

route is about 75-feet tall and is located approximately 300 feet away. Existing wood distribution poles are also visible behind the homes.

KOP 14: View from Highway 70 northbound at Highway 65

KOP 14 (Figure 3.1-5) provides a view of the project from northbound Highway 70 at the Highway 65 merge in Olivehurst. This view includes both the project route and a second existing transmission line that crosses Highway 70 in the foreground. Lattice towers associated with both lines appear prominently on each side of the roadway. In the background a wood-pole utility line crosses the roadway, and wood poles of another existing line appear on the right side of the roadway.

KOP 17: View from Highway 70 northbound near Algodon Road

KOP 17 (Figure 3.1-6) provides a view of the project from Highway 70 northbound near Plumas Arboga Road in the Plumas Lake area. This view includes existing lattice towers associated with the project route (seen on the right) as well as an adjacent transmission route to the left. Because of the area’s flat, open landscape character, unobstructed close range and distant views of these transmission lines and structures are available from this portion of Highway 70.

3.1.2 Environmental Impacts and Mitigation Measures

Methodology

This aesthetics and visual resource analysis follows the methodology described in the Federal Highway Administration’s (FHWA) Visual Impact Assessment for Highway Projects (FHWA 1988). The FHWA process, in widespread use for evaluation of project visual impacts, includes the following steps to assess potential impacts on visual resources:

1. Establish a visual environment for the project by identifying “landscape unit(s)” in which the project is located. Landscape units are areas with reasonably homogeneous views that contain continuous, similar, or interrelated visual elements.
2. Assess the visual resources of the project area by describing the visual character of the project area and assessing the visual quality. Visual character is described in terms of the four visual pattern elements: form, line, color, and texture. Visual quality is assessed based on the vividness, intactness, and unity of views.
3. Describe the potentially affected viewers in terms of viewer exposure to the project and the levels of viewer sensitivity. Viewer exposure considers the distance of the viewer to the project, the position of the viewer in terms of relative elevation, the direction of the view, approximate numbers of viewers, and the duration or frequency of views. Viewer sensitivity describes the viewer’s expectation of a view based on viewer activity and awareness and any local or cultural significance of the site.
4. Develop simulations to predict the potential visual impact of the project. Visual impact is a function of the projected visual resource change and anticipated viewer response.

The FHWA assessment methodology was applied for the Palermo East Nicolaus 115-kV Transmission Line Project to establish a baseline environmental setting, identify and describe the project viewers, and develop simulations for select Key Observations Points (KOPs) from which to estimate the level of contrast that would be introduced by the project. The steps listed above were conducted in order to identify landscape areas that constitute logical units for analysis and to describe the existing visual resource setting and viewers.



Existing view from Baldwin Avenue at Railroad Avenue looking west (VP 4)



Visual simulation of proposed project

Note: For viewpoint location, refer to Figure 3.1-1.

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Existing view from Fernwood Drive near Wildwood Drive looking northeast (VP 11)



Visual simulation of proposed project

Note: For viewpoint location, refer to Figure 3.1-1.

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Existing view from Highway 70 northbound at Highway 65 merge looking north (VP 14)



Visual simulation of proposed project

Note: For viewpoint location, refer to Figure 3.1-1.

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Existing view from Highway 70 northbound looking northeast (VP 17)



Visual simulation of the proposed project

Note: For viewpoint location, refer to Figure 3.1-1.

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KOPs were used to represent both typical views of the site and views from sensitive locations. The project's potential to change the visible landscape and likely viewer responses to those changes were then assessed using simulations of the project components prepared for each KOP. The simulations were systematically compared against the baseline conditions to determine the nature and degree of potential impacts on visual resources. Levels of impacts are assessed by comparing FHWA rankings of existing views with rankings based on prepared simulations. The impact assessment also takes into account the number of viewers, the duration of views, and viewer expectation. Viewer expectation takes into account viewer activity, and takes into account any federal, state, or local regulations that protect visual resources in the area.

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

NO IMPACT. For purposes of this evaluation a scenic vista is defined as a public view along a corridor or from a specific vantage point that is recognized and valued for its scenic quality. The Butte County General Plan contains language recognizing the scenic qualities of the Sierra Foothills (Butte County 2000), and the Sutter County General Plan contains language recognizing the Sutter Buttes as a visual resource (Sutter County 1996). Additionally, the Yuba County General Plan describes the Yuba River Corridor as “visually appealing” (Yuba County 1996).

The project route would cross the Yuba River near Marysville, and the project area offers distant views of the Sierra Foothills and the Sutter Buttes. However, because the project would involve the replacement of existing approximately 75- to 95-foot tall LSTs with a combination of approximately 85- to 120-foot tall hybrid poles, TSPs, and LSPs, the project would not alter existing views of the river or of distinctive land formations in the backdrop. Therefore, the project would have no impact under this criterion.

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

NO IMPACT. The project is not within the viewshed of any designated or eligible state scenic highways. In Butte County, Highway 70 north of Highway 191 and, in Yuba County, Highway 49 are located 10 and 25 miles from the project, respectively, and are both considered eligible state scenic highways. Sutter County has no officially designated or eligible state scenic highways. The project would have no impact on scenic resources within view of a state scenic highway.

The project is within the viewshed of several eligible and designated county and local scenic highways. These include segments of Highway 20 (proposed Yuba County scenic route), State Highway 70/Marysville Bypass to the Butte County Line (eligible Yuba County scenic route), State Highway 49 (potentially eligible Yuba County scenic route), Highway 70 at the Yuba River Bridge (recognized as scenic in Marysville General Plan), and Highway 20 (recognized for views of the Sutter Buttes in the Sutter County General Plan). However, because the project would involve the replacement of existing approximately 75- to 95-foot tall lattice steel towers with a combination of approximately 85- to 120-foot tall hybrid poles, TSPs, and LSPs, the project would not alter existing views from these roadways. Therefore, the project would have no impact under this criterion.

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

LESS THAN SIGNIFICANT. Construction of the project would not substantially degrade the existing visual character or quality of the site and its surroundings. Construction-related visual impacts would result from the presence of equipment, materials, and work crews along the route and at the substations.

Additionally, grading and clearing would be required for lay-down/staging/helicopter landing zone areas, pull sites, temporary access roads, and improvements to existing roads. Disturbed areas would be restored to preconstruction conditions, including revegetation of areas where vegetation removal is required for construction. Although these effects are relatively short term, they would be most noticeable to residents who live in close proximity to the project route and to motorists traveling along the route on public roadways. Project construction would take approximately 12 to 18 months. However, at any one tower location this time period would be considerably shorter. To minimize impacts to visual resources due to construction, the applicant would instruct all construction subcontractors to keep construction areas clean and construction activities inconspicuous. With the applicant's efforts to minimize impacts to visual resources due to construction and based on the temporary nature of these impacts, construction impacts to visual resources would be less than significant.

Operation of the project would not substantially degrade the existing visual character or quality of the project site and its surroundings. The project would replace the majority of existing transmission towers along the route. Most existing structures are LSTs that would be replaced with slightly taller hybrid pole structures. In specific locations, TSPs or LSPs would be used. The total number of poles along the route would be reduced (Tables 1.8-2 and 1.8-3).

The increased height and different model of poles may be noticeable when seen in foreground views in the project area. However, the change would be incremental and some viewers may consider the hybrid, TSP, and LSPs to have a more streamlined appearance; therefore, the impact under this criterion would be less than significant. Specific visual impacts on the existing character and quality of the landscape are described below as seen in the simulations prepared for the aesthetic resources analysis.

Simulation from KOP 4

This simulation shows an unobstructed view of the new replacement hybrid pole, which would be situated close to the location of the existing tower it replaces. The new structure would be 90 feet tall whereas the existing tower is approximately 75 to 80 feet tall. In comparison to the existing structure it would replace, the new pole would be slightly taller; however, its profile and form would appear more streamlined. In these respects the change to existing visual conditions is incremental. A comparison of the Figure 3.1-3 before and after images demonstrates that the visual change associated with the project would not substantially alter the existing landscape composition and aesthetic character at this location.

Simulation from KOP 11

This simulation view shows the replacement structure, an 80-foot steel pole. The particular pole shown would be a transposition pole. Its design is somewhat unique and more visually complex than a typical replacement pole. The new pole would be located slightly further from the photo viewpoint, and although it would be somewhat taller than the existing tower, it would look similar in scale. The new transposition pole would also be similar in general appearance to the existing utility structures in the area. As seen from this vantage point, the project would result in a minor visual change, which could be somewhat noticeable to the public. However, given the presence of existing utility structures in this area, it would not significantly alter the existing visual character or quality of the landscape setting.

Simulation from KOP 14

The simulation shows three new steel replacement poles, one on the left side of the roadway and two on the right side. The project replaces the existing 90- to 95-foot LST on the left side of the road with an 80-foot steel pole approximately 400 feet away. In addition, the existing 75-foot LST on the right is replaced by a 100-foot steel pole. This replacement structure would be about 900 feet from the photo

viewpoint. The simulation also shows a lattice tower on the adjacent transmission line replaced by a steel pole.

The replacement poles would be similar in scale to the existing LSTs. While the new poles would appear somewhat more substantial than the lattice towers, their streamlined profile would result in a reduced sense of visual clutter at this location. A comparison of the existing view and the visual simulation demonstrates that, given the presence of existing transmission structures, this incremental visual change would not substantially alter the landscape composition or character at this location.

Simulation from KOP 17

The simulation shows a 90-foot hybrid pole. The new structure would replace the existing 90-foot LST. The replacement pole, approximately 450 feet away, would be somewhat closer to the viewpoint than the existing tower. The next replacement pole, about 1,100 feet away, would be a 90-foot hybrid pole that would replace a 70-foot lattice tower. As seen from this Highway 70 vantage point, the project would introduce structures that differ in form but are similar in scale to existing structures. This change represents a minor incremental visual effect that would not substantially alter the area's existing landscape character or quality given the presence of multiple existing large transmission structures.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

LESS THAN SIGNIFICANT. Construction and operation of the project would not create new sources of substantial light that would adversely affect day or nighttime views along the project route. In some areas, work would be done by night to limit periods of electrical outage. The applicant would limit nighttime work (work done after 7:00 pm and before 7:00 am) to outside of urban areas. Lighting would be restricted to those areas necessary for worker safety and task execution and would be directional and shielded to avoid intrusion into non-necessary work areas. Nighttime lighting required for construction activities would be temporary, shielded, and located away from most receptors; therefore, it would not result in a substantial new source of light.

Construction and operation of the project would not create new sources of substantial glare, which would adversely affect day or nighttime views along the project route. Replacement poles would have dull grey surfaces. After their installation, the new conductors may initially appear brighter or shinier than the existing conductors; however, it is expected that they would weather to a dull finish within a few years. Therefore, the project would not create a new source of substantial nighttime light or daytime glare, and impacts under this criterion would be less than significant.

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3.2 Agriculture and Forestry Resources

Table 3.2-1 Agriculture and Forestry Resources Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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 checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 forestland or conversion of forestland 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 or conversion of forestland to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Note: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

3.2.1 Setting

Environmental Setting

Agriculture is the most extensive single land use in Yuba, Butte, and Sutter Counties (~~Butte County 2007, Yuba County 2008, Sutter County 2008~~ CDC 2008a, CDC 2008b, CDC 2008c). As shown below in Table 3.2-2 about 55 percent of the total Yuba County area, ~~63~~ 61 percent of the total Butte County area, and 88 percent of the total Sutter County area comprises agricultural croplands and pasture. The agricultural industry remains a strong and important component of these counties' economies, and the preservation of agricultural lands is regarded as a high priority for local land use planning agencies in the region, especially in light of encroaching urban development.

Table 3.2-2 Farmland in Project Regional Area

Area	Total Land Area (acres)	Designated ^a Farmland		Other ^b Farmland		Total Farmland Area (% total)	Farmland Converted (acres), 2004 to 2006
		Total	% Total Land Area	Total	% Total Land Area		
Butte County	1.03 million	242,058	24	407,678	40	63	-1,502
Yuba County	412,160	85,384	21	142,729	35	55	-2,299
Sutter County	389,443	292,256	75	51,516	13	88	-288
Totals:	1,831,603	619,698	34	601,923	33	67	-4,089 (-0.7%) (0.3%)

Source: PG&E 2009, Butte County 2007, Yuba County 2008, Sutter County 2008

Notes: a – Includes Prime Farmland, Farmland of Statewide Importance, and Unique Farmland, per FMMP categories

b – Includes Farmland of Local Importance and Grazing Land, per FMMP categories

NA – Not Available

Table 3.2-2 Farmland in Project Regional Area (2006–2008)

Area	Total Land Area (acres)	Designated ^a Farmland		Other ^b Farmland		Total ^c Farmland Area (% total)	Farmland ^c Converted (acres), 2006 to 2008
		Total	% Total Land Area	Total	% Total Land Area		
Butte County	1.07 million	240,561	23	401,859	38	61	-7,315
Yuba County	411,816	84,949	21	141,639	34	55	-1,644
Sutter County	389,439	291,068	75	52,571	13	88	-47
Totals:	1,871,255	616,578	33	596,069	32	65	-9,006 (-0.7%)

Source: CDC 2008a, CDC 2008b, CDC 2008c

Notes:

a = Includes Prime Farmland, Farmland of Statewide Importance, and Unique Farmland per FMMP categories

b = Includes Farmland of Local Importance and Grazing Land per FMMP categories

c = All converted farmland: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land per FMMP categories

Applicable Regulations, Plans, and Standards

State of California

Conservation of agricultural land in California is supported on the state level through the Division of Land Resource Protection (DLRP), and specifically through the Farmland Mapping and Monitoring Program (FMMP) and the California Land Conservation Act of 1965 (commonly referred to as the Williamson Act). For the FMMP, U.S. Department of Agriculture soils surveys and existing land use observations recorded during even-numbered years are used to determine the nature and quality of farmland in 10-acre minimum units across the state. FMMP mapping categories for the most important statewide farmland include Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. Other classifications include Farmland of Local Importance and Grazing Land. FMMP data are used in elements of some county and city general plans and associated environmental documents as a way of assessing the impacts of development on farmland, and in regional studies for assessing impacts due to agricultural land conversion.

The Williamson Act enables local governments to enter into rolling, 10-year contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use.

In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual, farming, and open space uses, as opposed to potential market value.

County and City Plans, Regulations, and Consultation

In locating projects constructed by public utilities subject to the California Public Utilities Commission’s (CPUC’s) jurisdiction, the CPUC is required to consult with local agencies regarding land use matters, though the applicant is not subject to local land use regulations (CPUC 1995). “Initial consultations with local planning agencies in Butte County, Yuba County, and Sutter County have not revealed any apparent inconsistencies between the project and existing local plans and regulations addressing agriculture in these jurisdictions” (Boeck 2009, Palmieri 2009, Teitelman 2009, Wilson 2009). The project would not cross over any land within the cities of Oroville or Marysville zoned for agricultural uses (PG&E 2009).

The general plans of Butte, Yuba, and Sutter counties all include strong agriculture preservation policies. Goals and policies for agriculture in these general plans address preserving agricultural land and farming uses; promoting growth and expansion of farmland; ensuring the continuity of areas in agricultural uses; reducing land use or other conflicts between agricultural and non-agricultural land uses; restricting non-agricultural uses in farmland areas; establishing buffers between urban development and agricultural land; and ensuring long-term protection of agricultural production.

Some zoning ordinances for agricultural land in these jurisdictions include requirements that electric transmission facilities be developed under use permits or conditional use permits granted by the local government. The project, however, is exempt from these requirements (CPUC 1995).

3.2.2 Environmental Impacts and Mitigation Measures

In Butte, Yuba, and Sutter counties, the project would traverse land with FMMP designations of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Grazing Land (Figure 3.2-1). The project would traverse several areas in these counties zoned for agricultural uses. The project would not cross or border any Williamson Act parcels in these counties.

- 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?*

LESS THAN SIGNIFICANT. For the purposes of this discussion, and per FMMP categories, “designated farmland” refers to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. “Other farmland” or “non-designated farmland” refers to Farmland of Local Importance or Grazing Land. As shown below in Table 3.2-3, an estimated 215.79 acres of designated farmland would be temporarily disturbed by the project due to the construction of temporary access roads, grading sites to provide helicopter landing pads, and for use as work areas to remove or replace existing towers and the construction of new towers (PG&E 2009).

Table 3.2-3 Estimated Farmland Disturbed by Project

Area	Acres (% in County) Temporary Disturbance, Designated ^a Farmland	Acres (% in County) Permanent Loss, Designated ^a Farmland	Acres (% in County) Temporary Disturbance, Other ^b Farmland	Acres (% in County) Permanent Loss, Other ^b Farmland
Butte County	0 (0%)	0 (0%)	1.3 (62%)	0 (0%)
Yuba County	2.3 (1.07%)	0 (0%)	0.7 (30%)	0 (0%)

Sutter County	213.49 (98.93%)	0 (0%)	0.2 (8%)	0 (0%)
City of Oroville	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Totals:	215.79	0	2.2	0

Source: PG&E 2009

Notes:

^a Includes Prime Farmland, Farmland of Statewide Importance, and Unique Farmland, per FMMP categories

^b Includes Farmland of Local Importance and Grazing Land, per FMMP categories

This temporary removal of designated farmland from productive use represents **0.04 percent (215.79 / 616,578 x 100 percent)** a very small portion (0.04%) of the total designated farmland in the affected jurisdictions of Butte, Yuba, and Sutter counties. Per the applicant's right-of-way joint use policy, farmers would be fully compensated for the temporary loss of the portion of their land affected by the project; furthermore, any damage to or removal of orchard trees would also be fully compensated (Section 1.8.5.5, Cleanup and Post-Construction Restoration). The total acreage of designated farmland affected by the project would be relatively small, and disturbance would be temporary. Therefore, impacts would be less than significant under this criterion.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

NO IMPACT. The project route would not conflict with existing zoning for agricultural use and does not cross or border Williamson Act parcels (PG&E 2009); therefore, there would be no impact under this criterion.

c. Would the project conflict with existing zoning for, or cause rezoning of, forestland (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))?

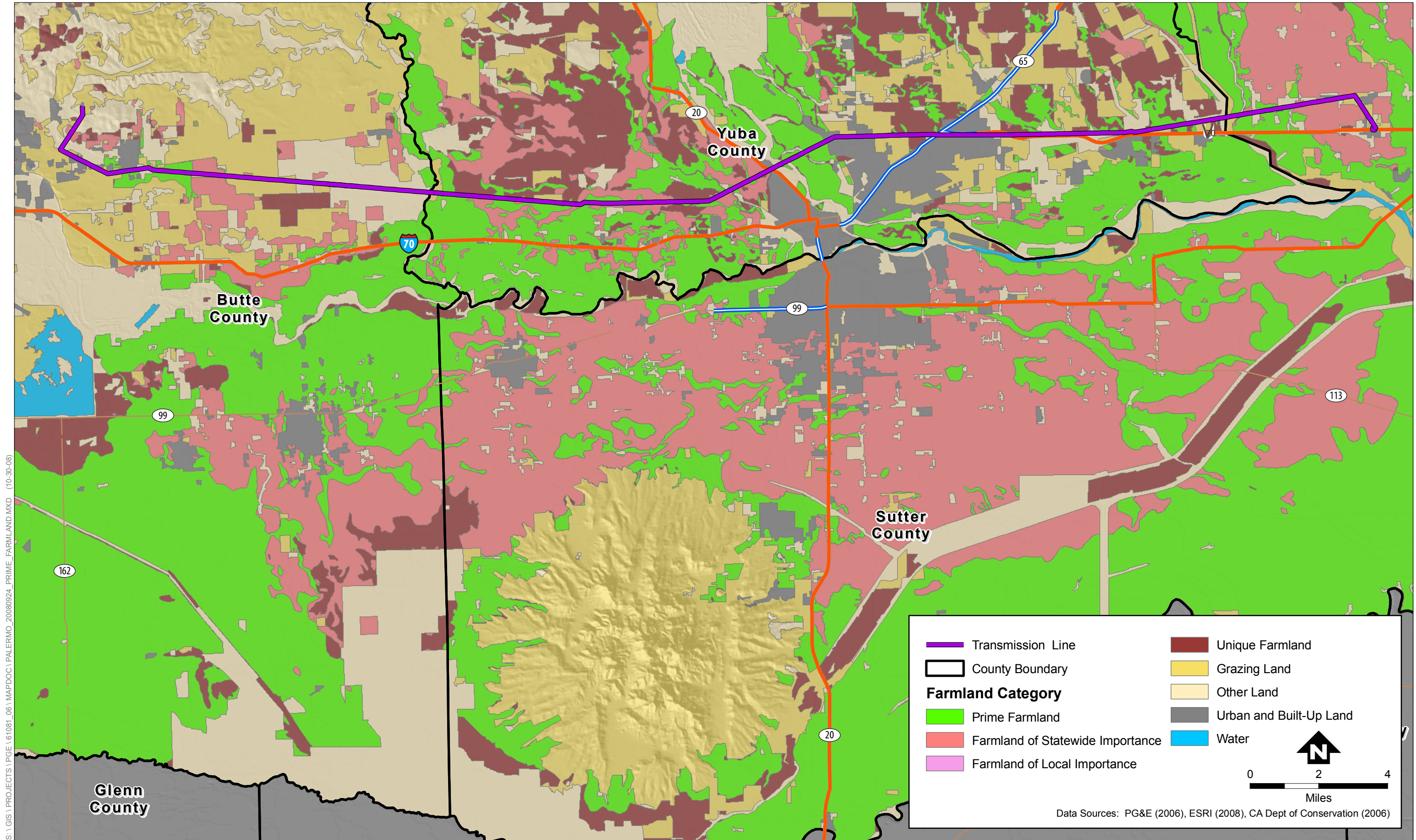
NO IMPACT. The project route would not cross forestland or timberland, and there would be no impact under this criterion.

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

NO IMPACT. The project route would not cross forestland, and there would be no impact under this criterion.

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?

LESS THAN SIGNIFICANT. As shown above in Table 3.2-3, the project would temporarily remove about 2.2 acres of non-designated farmland from agricultural production due to the construction of temporary access roads, work areas, and helicopter landing sites (PG&E 2009). This temporary removal of non-designated farmland from productive use represents a very small portion (0.0004%) of the total non-designated farmland in the affected jurisdictions of Butte, Yuba, and Sutter counties. Per the applicant's right-of-way joint use policy, farmers would be fully compensated for the temporary loss of the portion of their land affected by the project; furthermore, any damage to or removal of orchard trees would also be fully compensated (Section 1.8.5.5, Cleanup and Post-Construction Restoration). The total acreage of non-designated farmland affected by the project would be relatively small, and disturbance would be temporary. In addition, the project route would not cross forestland. Therefore, impacts would be less than significant under this criterion.



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Reference: Fig. 4-2-1, Prime Farmland in the Project Vicinity, Proponent's Environmental Assessment, Palermo-East Nicolaus 115 kV Transmission Line Reconstruction Project, ICF Jones & Stokes, February 2009

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PALERMO-EAST NICOLAUS 115-KV TRANSMISSION LINE

Figure 3.2-1

Prime Farmland Along the Project Route

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3.3 Air Quality

Table 3.3-1 Air Quality Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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 substantially 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 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"/>

3.3.1 Setting

Project activities would be conducted within parts of Butte County, Yuba County, and Sutter County. These counties are located in the northern portion of the Sacramento Valley Air Basin (SVAB). The northern SVAB is bounded on the north and west by the Coastal Mountain Range and on the east by the southern portion of the Cascade Mountain Range and the northern portion of the Sierra Nevada Mountains. These mountain ranges reach heights in excess of 6,000 feet above mean sea level (MSL), with individual peaks rising much higher. This provides a substantial physical barrier to both locally created pollution and the pollution that has been transported northward on prevailing winds from the Sacramento Metropolitan area. Although a significant area of northern SVAB is at elevations higher than 1,000 feet above MSL, the vast majority of its populace lives and works below that elevation. The valley is often subjected to inversion layers that, coupled with geographic barriers and high summer temperatures, create a high potential for air pollution problems (NSVPA 2006).

Criteria Air Pollutants

The Clean Air Act (CAA) requires the United States Environmental Protection Agency (USEPA) to set National Ambient Air Quality Standards (NAAQS) for criteria pollutants that are emitted from numerous and diverse sources considered harmful to public health and the environment. Primary NAAQS have been established to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary NAAQS have been established to protect public welfare, including protection against visibility impairment, damage to animals, crops, vegetation, and buildings. The USEPA has set NAAQS for seven criteria pollutants:

- Carbon monoxide (CO);
- Lead;
- Nitrogen dioxide (NO₂);

- Ozone;
- Particulate matter less than or equal to ten microns in diameter (PM₁₀);
- Particulate matter less than or equal to 2.5 microns in diameter (PM_{2.5}); and
- Sulfur dioxide (SO₂).

Ozone is not emitted directly from emission sources but is created at near-ground level by a chemical reaction between oxides of nitrogen (NO_x) and reactive organic gases (ROGs) in the presence of sunlight. As a result, NO_x and ROGs are often referred to as ozone precursors and are regulated as a means to prevent ground-level ozone formation.

The State of California has also established California Ambient Air Quality Standards (CAAQS) for these criteria pollutants, as well as ambient air quality standards for sulfates, hydrogen sulfide (H₂S), vinyl chloride, and visibility-reducing particles. NAAQS and CAAQS are summarized in Table 3.3-2. The historical frequency of violations of these standards and the air quality at air monitoring stations in the vicinity of the project are summarized in Table 3.3-3.

Table 3.3-2 Summary of National and California Ambient Air Quality Standards

Pollutant	Averaging Time	NAAQS		CAAQS
		Primary	Secondary	
CO	8-hour	9 ppm ^(a)	-	9 ppm
	1-hour	35 ppm ^(a)	-	20 ppm
Lead	3-month (rolling average)	0.15 µg/m ³	0.15 µg/m ³	-
	Quarterly	1.5 µg/m ³	1.5 µg/m ³	-
	30-day	-	-	1.5 µg/m ³
NO ₂	Annual	0.053 ppm	0.053 ppm	0.030 ppm
	1-hour	-	-	0.18 ppm
Ozone	8-hour	0.075 ppm ^(b) (0.08 ppm ³) ^(b,c)	0.075 ppm ^(b) (0.08 ppm ³) ^(b,c)	0.070 ppm
	1-hour	0.12 ppm ^(d)	-	0.09 ppm
PM ₁₀	Annual	-	-	20 µg/m ³
	24-hour	150 µg/m ³ ^(e)	150 µg/m ³ ^(e)	50 µg/m ³
PM _{2.5}	Annual	15.0 µg/m ³ ^(f)	15.0 µg/m ³ ^(f)	12 µg/m ³
	24-hour	35 µg/m ³ ^(g)	35 µg/m ³ ^(g)	-
SO ₂	Annual	0.03 ppm	-	-
	24-hour	0.14 ppm	-	0.04 ppm
	3-hour	-	0.5 ppm	-
	1-hour	-	-	0.25 ppm

Table 3.3-2 Summary of National and California Ambient Air Quality Standards

Pollutant	Averaging Time	NAAQS		CAAQS
		Primary	Secondary	
Sulfates	24-hour	-	-	25 µg/m ³
H ₂ S	1-hour	-	-	0.03 ppm
Vinyl chloride	24-hour	-	-	0.01 ppm
Visibility reducing particles	8-hour	-	-	Extinction coefficient of 0.23 per km visibility of 10 miles or more due to particles when relative humidity is less than 70 percent.

Sources: 40 CFR 50, 17 CCR §§ 70200

Key:

µg/m³ = micrograms per cubic meter

ppm = parts per million

Notes:

- ^a Not to be exceeded more than once per year.
- ^b To attain this standard, the 3-year average of the fourth highest daily maximum 8-hour average concentration over year must not exceed the standard.
- ^c 1997 standard. The implementation rules for this standard will remain in place for implementation purposes as USEPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.
- ^d As of June 15, 2005, 1-hour ozone NAAQS revoked in all areas except the fourteen 8-hour ozone nonattainment Early Action Compact (EAC) Areas.
- ^e Not to be exceeded more than once per year on average over 3 years.
- ^f To attain this standard, the 3-year average of the 98th percentile must not exceed the standard.
- ^g The 3-year average of the 98th percentile of 24-hour concentrations within an area must not exceed the standard.

Table 3.3-3 Ambient Air Quality Monitoring Data

Monitoring Station	Pollutant	Parameter	Averaging Period	2005	2006	2007
Yuba City	Ozone	Maximum Concentration (ppm)	1-hour	0.092	0.102	0.095
			8-hour	0.073	0.081	0.081
		Days with exceedances of NAAQS ^a	8-hour	0	0	0
			Days with exceedances of CAAQS ^a	1-hour	0	1
	8-hour	7		13	6	
	CO	Maximum Concentration (ppm)	1-hour	4.4	3.1	-
			8-hour	3.4	2.3	-
		Days with exceedances of NAAQS ^a	1-hour	0	0	-
			8-hour	0	0	-
		Days with exceedances of CAAQS ^a	1-hour	0	0	-
			8-hour	0	0	-
	PM ₁₀ ^b	Maximum Concentration - Federal ^c (µg/m ³)	24-hour	59	63	51
			Annual	24.7	23.0	19.7
		Maximum Concentration - State ^d (µg/m ³)	24-hour	60	66	54
Annual			25.0	-	-	
Days with exceedances of NAAQS ^a		24-hour	0	0	0	
		24-hour	5	4	1	

Table 3.3-3 Ambient Air Quality Monitoring Data

Monitoring Station	Pollutant	Parameter	Averaging Period	2005	2006	2007
	PM _{2.5} ^b	Maximum Concentration - Federal ^c (µg/m ³)	24-hour	45	42	45
			Annual	9.5	11.4	8.2
		Maximum Concentration - State ^{d,e} (µg/m ³)	24-hour	47.2	51.6	55.8
			Annual	10.2	11.2	-
		Days with exceedances of NAAQS ^{a,f}	24-hour	0	0	0
Gridley	PM _{2.5} ^b	Maximum Concentration - State ^{d,e} (µg/m ³)	24-hour	53.0	48.4	53.4
			Annual	-	-	9.2

Sources: CARB 2008, USEPA 2008

Key:

ppm = parts per million.

µg/m³ = micrograms per cubic meter.

CAAQS = California ambient air quality standards.

NAAQS = National ambient air quality standards.

Notes:

^a An exceedance is not necessarily a violation.

^b Measurements usually collected every 6 days.

^c Based on standard conditions. Samplers using federal reference (or equivalent) method.

^d Based on local conditions. Use of California-approved samplers.

^e State criteria for calculating annual average concentrations are more stringent than the national criteria.

^f Estimate of days with concentrations higher than the level of the standard.

USEPA compares ambient air criteria pollutant measurements with NAAQS to assess the status of air quality of regions within the states of the United States. Similarly, the California Air Resources Board (CARB) compares air pollutant measurements in California to CAAQS. Based on these comparisons, regions within the states of the U.S. and California are designated as one of the following categories:

- **Attainment.** A region is designated as attainment if monitoring shows ambient concentrations of a specific pollutant are less than or equal to NAAQS or CAAQS. In addition, areas that have been redesignated from nonattainment to attainment area are classified as a “maintenance area” for a 10-year period to ensure that the air quality improvements are sustained.
- **Nonattainment.** If the NAAQS or CAAQS is exceeded for a pollutant, then the region is designated as nonattainment for that pollutant.
- **Unclassifiable.** An area is designated as unclassifiable if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

The air quality designations of the areas where project activities would occur are summarized in Table 3.3-4.

Table 3.3-4 Attainment Status within the Regional Area

Pollutant	Butte County		Yuba County		Sutter County	
	NAAQS	CAAQS	NAAQS	CAAQS	NAAQS	CAAQS
CO	Att/U	Att/U	Att/U	Att/U	Att/U	Att/U
Lead	Att/U	Att/U	Att/U	Att/U	Att/U	Att/U
NO ₂	Att/U	Att/U	Att/U	Att/U	Att/U	Att/U
Ozone (1-hr)	-	NonAtt	-	NonAtt	-	NonAtt
Ozone (8-hr)	NonAtt	NonAtt	Att/U	NonAtt	NonAtt ^a	NonAtt
PM ₁₀	Att/U	NonAtt	Att/U	NonAtt	Att/U	NonAtt
PM _{2.5}	Att/U	NonAtt	NonAtt ^b	Att/U	NonAtt ^b	Att/U
SO ₂	Att/U	Att/U	Att/U	Att/U	Att/U	Att/U
Sulfates	-	Att/U	-	Att/U	-	Att/U
H ₂ S	-	Att/U	-	Att/U	-	Att/U
Vinyl Chloride	-	Att/U	-	Att/U	-	Att/U
VRP	-	Att/U	-	Att/U	-	Att/U

Key:

Att/U = attainment/unclassifiable area

NonAtt = nonattainment area

Notes:

^a Ozone NAAQS nonattainment area includes only the southern portion of Sutter County.

^b PM_{2.5} NAAQS nonattainment area includes Sutter County and portions of Yuba County (Marysville area).

Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants suspected or known to cause cancer, birth defects, neurological damage, or other-related issues. Except for lead, there are no established ambient air quality standards for TACs. Instead, the compounds are managed on a case-by-case basis depending on the quantity and type of emissions and proximity of potential receptors. Statewide and local programs identify industrial and commercial emitters of TACs and require reduction in these emissions. There are also federal programs that require control of certain categories of TACs. Diesel engines emit a complex mix of pollutants, the most visible of which are very small carbon particles or "soot", known as diesel particulate matter (DPM). CARB has identified DPM as a TAC.

Applicable Regulations, Plans, and Standards

Ambient air quality and air pollutant emissions from stationary and mobile sources are managed under a framework of federal, state, and local rules and regulations.

Federal

The USEPA is the principal administrator responsible for overseeing enforcement of CAA statutes and regulations. The USEPA also oversees implementation of federal programs for permitting new and modified stationary sources, controlling toxic air contaminants, and reducing emissions from motor vehicles and other mobile sources. The sections of the CAA that are most applicable to the project include Title I (Air Pollution Prevention and Control) and Title II (Emission Standards for Mobile Sources).

Title I of the CAA requires establishment of NAAQS, air quality designations, and plan requirements for nonattainment areas. States are required to submit a state implementation plan (SIP) to EPA for areas in nonattainment with NAAQS. The SIP, which is reviewed and approved by the USEPA, must demonstrate

how state and local regulatory agencies will institute rules, regulations and/or other programs to achieve attainment with NAAQS.

Title II of the CAA contains a number of provisions regarding mobile sources, including requirements for reformulated gasoline, new tailpipe emission standards for cars and trucks, standards for heavy-duty vehicles, and a program for cleaner fleet vehicles.

State

The California Clean Air Act outlines a statewide air pollution control program in California. CARB is the primary administrator of California Clean Air Act while local air quality districts administer air rules and regulations at the regional level. CARB is responsible for establishing CAAQS, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and preparing the SIP. CARB utilizes air quality management plans prepared by local air quality districts as the basis of SIP development. State regulatory provisions applicable to the project include, but are not limited to:

Code of California Regulations Title 13, Section 2281 (13 CCR 2281): Sulfur Content of Diesel Fuel

The sulfur content of vehicular diesel fuel sold or supplied in California must not exceed 15 parts per million (ppm). Diesel supplied in California for project vehicles and equipment would be subject to this regulation and, therefore, must have a sulfur content less than or equal to 15 ppm.

Local

Local air districts in California are responsible for issuing stationary source air permits, developing emissions inventories, maintaining air quality monitoring stations, and reviewing air quality environmental documents required by CEQA. The California Clean Air Act also designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The Butte County Air Quality Management District (BCAQMD) is the administrator of air pollution rules and regulations within Butte County. The Feather River Air Quality Management District (FRAQMD) is the administrator of air pollution rules and regulations within Yuba County and Sutter County.

BCAQMD, FRAQMD, and other local air quality districts located within the northern SVAB developed the Northern Sacramento Valley Planning Area 2006 Air Quality Attainment Plan to address the area's nonattainment status for ozone. The purpose of the plan is to achieve and maintain healthy air quality throughout the northern air basin. The plan addresses the progress made in implementing the original air quality attainment plan submitted to CARB in 1991 and has been updated every three years, most recently in 2006. The plan focuses on the adoption and implementation of control measures for stationary sources, area wide sources, and indirect sources, and addresses public education and information programs. Projects directly related to population growth (e.g., residential projects) have been forecast in the plan. In general, population-related projects have been accounted for in the plan with the implementation of regional-wide control measures.

Local regulatory provisions applicable to the project include, but are not limited to:

- **BCAQMD Rule 200: Nuisance.** This rule prohibits emissions from any non-vehicular source in such quantity to cause injury or nuisance to a considerable number of persons or which endanger the comfort, health, or safety of the public or which cause damage to property.

- BCAQMD Rule 205: Fugitive Dust Emissions. This rule requires reasonable precautions be taken so as not to cause or allow the emissions of fugitive dust beyond of construction and/or operational activities.
- FRAQMD Rule 3.16: Fugitive Dust Emissions. This rule regulates operations which periodically may cause fugitive dust emissions into the atmosphere.

Applicant Proposed Measures

The applicant has incorporated the following applicant proposed measures (APMs) into the project to minimize or avoid impacts on cultural resources. See Chapter 1.0 for a complete list of APMs that the applicant has incorporated into the project to avoid or minimize impacts on all resources.

APM AIR-1: Implement best management practices to reduce construction tailpipe emissions

APM AIR-2: Implement mitigation measures for construction fugitive dust emissions

APM AIR-3: Minimize greenhouse gas emissions during construction

APM AIR-4: Implement standard mitigation measures

APM AIR-5: Implement all appropriate best available mitigation measures

APM AIR-6: Avoid concurrent daytime and nighttime construction emissions

3.3.2 Environmental Impacts and Mitigation Measures

Project construction is expected to take 12 to 18 months to complete. The construction phases along the transmission line corridor would include site preparation, tower work, and line stringing activities. Site preparation is expected to include the use of a bulldozer and backhoe and would occur over a 19-week period in the FRAQMD and an 8-week period within the BCAQMD. Tower work would require the use of numerous types of equipment (e.g., bulldozer, grader, crane, line truck) with a workforce of approximately 50 workers per day. Tower work would occur over a 19-week period in the FRAQMD and an 8-week period within the BCAQMD.

Two construction alternatives are proposed for line stringing: **Alternative 1** would use helicopters to string lines and **Alternative 2** would use ground equipment (i.e., crane and line truck) to string lines. Line stringing would occur over a 24-week period within the FRAQMD and a 6-week period within the BCAQMD. During the ozone season (May 1 through October 31), construction activities would occur over a 19-week period within the FRAQMD and a 7-week period within the BCAQMD. In order to reduce emissions and minimize impacts during the peak ozone season line stringing activities with helicopters would be replaced with ground equipment where practical.

The linear nature of project construction would mean construction work phases occurring at different locations spread out over the length of the corridor. Because construction would progress quickly, construction activities are not expected to take place near any one location for more than a few days.

Air pollutant emissions would be generated during each construction phase. Air pollutants would be emitted from engine exhaust of on-site construction equipment and on-road vehicles. On-site earthmoving activities and vehicle travel on local/access roads would also generate fugitive dust. Maximum daily and total air pollutant emissions were estimated for each construction phase using the URBEMIS 2007 emissions model and published emission factors. A summary of estimated daily emissions for each

construction phase is presented in Table 3.3-5. These estimated daily emissions represent values prior to the implementation of APMs to reduce emissions. Potential emission reductions with APMs are addressed in the next section. Detailed emission calculations are presented in Appendix A.

Table 3.3-5 Estimated Daily Construction Emissions for Each Construction Phase

Construction Phase	Daily Emissions (lb/day)					
	ROGs	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Site Preparation	3.8	28	16	<0.01	1.8	1.6
Tower Work	12.6	125	69	1.1	5.8	5.8
Line Stringing						
(Alternative 1)	1.2	56	27	3.8	3.7	3.7
(Alternative 2)	2.2	21	10	<0.01	0.8	0.8

Key:

Alternative 1 = Line stringing work done with helicopters.

Alternative 2 = Line stringing work done with ground equipment.

For operation of the transmission line following construction activities, no additional maintenance is required beyond the existing ongoing maintenance. Therefore, it is assumed that there would be no long-term emission increases associated with the project.

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

LESS THAN SIGNIFICANT IMPACT. Construction activities related to the project would not conflict with or obstruct implementation of the Northern Sacramento Valley Planning Area Air Quality Attainment Plan. This plan outlines the long-term strategies designed to have regional air quality comply with NAAQS and CAAQS. The emission inventory, as part of the plan, includes emissions from off-road equipment, such as construction equipment and fugitive dust. The emissions associated with project construction would be temporary and would only represent a very small fraction of the regional emission inventory included in the plan. Thus, project construction emissions are not expected to contribute significant burden to the regional emission budget. Project construction equipment would also be operated in compliance with applicable local, state, and federal regulations as outlined in the plan and related SIP. No long-term increases in operational emissions are anticipated for the project. Therefore, impacts would be less than significant under this criterion.

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

LESS THAN SIGNIFICANT IMPACT. Emissions generated from construction activities are anticipated to cause temporary increases in ambient air pollutant concentrations. Given that construction activities would be transient and would impact specific locations for only limited durations, long-term impacts would not occur. The BCAQMD and FRAQMD consider short-term impacts to be less than significant so long as applicable standard mitigation measures (SMMs) and best available mitigation measures (BAMMs) are applied. Therefore, the applicant would implement APM AIR-1 through APM AIR-6 to reduce air pollutant emissions from construction activities, and impacts would be less than significant under this criterion.

c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality

standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

LESS THAN SIGNIFICANT IMPACT. The project would occur in some areas that are designated as nonattainment for ozone, PM₁₀, and PM_{2.5}. A summary of estimated reduction in NO_x construction emissions for tower work and line stringing phase work is presented in Table 3.3-6. A summary of total reductions in maximum daily NO_x emissions for phase work being performed concurrently is presented in Table 3.3-7. During limited periods, more than one work crew may be used for each construction phase. BCAQMD and FRAQMD consider short-term impacts to be less than significant so long as applicable SMMs and BMMs are applied. The applicant would implement APM AIR-1 through APM AIR-6 to reduce air pollutant emissions from construction activities, including reductions of emissions of ozone precursors (NO_x and ROG_s), PM₁₀, and PM_{2.5}. Therefore, impacts would be less than significant under this criterion.

Table 3.3-6 Estimated Daily NO_x Emissions for Tower Work and Line Stringing Phases

Construction Phase	Equipment Type	Unmitigated Daily NO _x Emissions (lb/day)	Mitigated Daily NO _x Emissions (lb/day)
Tower Work	Ground Equipment	108.4	68.7
	Helicopters	16.3	16.3
	<i>Total</i>	<i>125</i>	<i>85</i>
Line Stringing	Helicopters ¹	56	56
	Ground Equipment ²	21	14

Notes:

¹ Also known as Alternative 1.

² Equipment used when helicopters are not used (Alternative 2).

Table 3.3-7 Estimated Maximum Daily NO_x Emissions for All Construction Phases

Work Location	Season	Maximum Unmitigated Daily NO _x Emissions (lb/day)		Maximum Mitigated Daily NO _x Emissions (lb/day)	
		Alternative 1	Alternative 2	Alternative 1	Alternative 2
Feather River AQMD	Ozone Season	308	308	223	223
	Non-Ozone Season	168	143	168	100
Butte County AQMD	Ozone Season	249	249	170	170
	Non-Ozone Season	213	179	163	120

Key:

Alternative 1 = Site preparation, tower work, and/or line stringing work done with helicopters.

Alternative 2 = Site preparation, tower work, and/or line stringing work done with ground equipment.

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

LESS THAN SIGNIFICANT IMPACT. Sensitive receptors include schools, day care centers, hospitals, residential areas, and other sensitive uses. Several residential areas are located within 1,000 feet of the existing transmission line with additional residential areas within ½ mile of the line. A number of schools, retirement homes, and medical offices are also located within one half mile of the current transmission line (and proposed construction activities). A summary of specific sensitive receptors along the project transmission line is presented in Table 3.3-8. No hospitals are located within one half mile of the transmission line. Given that construction activities would be transient and would impact specific

locations for only limited durations, long-term impacts would not occur. Therefore, impacts would be less than significant under this criterion.

Table 3.3-8 Sensitive Receptors in Proximity to the Project

Receptor Group	Name of Receptor	Transmission Line Location
Receptors within 1,000 feet of Transmission Line	Linda Elementary School (Linda School District)	Mile 25
	Corp Presiding Bishop Church	Mile 25
	Chapter – Jesus Christ of Latter Day Saints	Mile 25
	Tucker Matthew Alan Medical Office	Mile 25
	Yuba College	Mile 25
	Her Sao Sue Religious Organization	Mile 27
	Yuba Gardens Intermediate School (Ella School District)	Mile 28
	Lindhurst High School (Marysville Joint Unified School District)	Mile 28
	Christian Church Fairview	Mile 39
	Macum-Illinois Union Elementary School	Mile 40
Receptors from 1,000 feet to 0.25 miles of Transmission Line	Palermo School	Mile 3
	Larry E. Engwerson Medical Office	Mile 3
	Jasper Ellis Medical Office	Mile 3
	First Assembly of God Church	Mile 27
	Codie Williams Retirement Group Quarters	Mile 27
	Del Norte Clinics	Mile 27
	Robert Drodgers Retirement Group Quarters	Mile 27
	First Baptist Church of Oliveh	Mile 27
	Seventh Day Adventists	Mile 28
	Johnson Park Elementary School (Ella School District)	Mile 28
	Church of God Prophecy	Mile 28
	Ella School District	Mile 28
	Plumas Elementary School District	Mile 33
	Browns Elementary School	Mile 37

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

LESS THAN SIGNIFICANT IMPACT. Exhaust from construction equipment may temporarily create odors from the combustion of fuel. However, the level of emissions would likely not cause a perceptible odor to a substantial number of people. Any odors that are perceptible would be temporary during construction activities. Vehicle emissions during project operation would very minimal and subsequently no objectionable odors are expected. Therefore, impacts would be less than significant under this criterion.

References

California Air Resource Board (CARB). 2008. Air Quality Data Statistics. <http://www.arb.ca.gov/ada>. Accessed September 17, 2008.

Northern Sacramento Valley Planning Area (NSVPA). 2006. Northern Sacramento Valley Planning Area Air Quality Attainment Plan.

United States Environmental Protection Agency (USEPA). 2008. Airdata.
<http://www.epa.gov/oar/data/index.html>. Accessed September 17, 2008.

URBan EMISsions Model (URBEMIS). 2007. Software Version 9.2.0.

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3.4 Biological Resources

Table 3.4-1 Biological Resources Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<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, or regulations or by the California Department of Fish and Game or US 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>

3.4.1 Setting

The project contains upland vegetation, wetland, and riparian habitat types. Upland vegetation habitat types identified include non-native grassland, valley oak woodland, interior live oak woodland, foothill pine-oak woodland, urban development, urban parks, rural-residential, irrigated pasture, orchard, and row crops. Wetland and riparian habitat types observed were seasonal wetland, northern hardpan vernal pool, vernal swale, valley freshwater marsh, open water, Great Valley willow riparian scrub, Great Valley mixed riparian forest, intermittent stream, irrigation canal, seasonally flooded rice crops, and non-vegetated and vegetated ditches.

Literature Search and Review

ICF Jones & Stokes completed the Proponent's Environmental Assessment and Biological Assessment for the applicant (ICF Jones & Stokes 2009a, 2009b). Addenda to the PEA were subsequently prepared to account for revised project description activities as outlined by the applicant to provide updated biological

information (ICF International 2010a). All of these documents were reviewed and pertinent biological resources referenced in these documents included the following:

- A California Natural Diversity Database (CNDDDB) records search of the Palermo, Honcut, Yuba City, Olivehurst, Nicolaus, Shippee, Oroville, Oroville Dam, Biggs, Bangor, Gridley, Loma Rica, Sutter, Browns Valley, Gilsizer Slough, Wheatland, Sutter Causeway, Sheridan, Knights Landing, Verona, and Pleasant Grove U.S. Geological Survey (USGS) 7.5-minute quadrangles.
- The California Native Plant Society's (CNPS's) 2010 online *Inventory of Rare and Endangered Plants of California* for Butte, Sutter, and Yuba counties and the Palermo, Honcut, Yuba City, Olivehurst, and Nicolaus USGS 7.5-minute quadrangles.
- A U.S. Fish and Wildlife Service (USFWS) list of endangered, threatened, and proposed species for Butte, Sutter, and Yuba counties and the Palermo, Honcut, Yuba City, Olivehurst, and Nicolaus USGS 7.5-minute quadrangles obtained from the USFWS website.
- The California Department of Fish and Game (DFG) 2009 Special Animals List.

Additional local, regional, and state biological resources were reviewed in order to identify pertinent ordinances or conservation plans. Regarding local and regional biological resources, the Butte, Sutter, and Yuba County General Plans were reviewed.

The CNDDDB was reviewed to determine the potential occurrence of sensitive or special status species and/or habitats within the project and vicinity. Special status species include plants and animals that are either listed as endangered or threatened under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA); listed as rare under the California Native Plant Protection Act; or considered to be rare (but not formally listed) by resource agencies, professional organizations (e.g., Audubon Society, CNPS), and the scientific community. The Palermo, Honcut, Yuba City, Olivehurst, Nicolaus, Shippee, Oroville, Oroville Dam, Biggs, Bangor, Gridley, Loma Rica, Sutter, Browns Valley, Gilsizer Slough, Wheatland, Sutter Causeway, Sheridan, Knights Landing, Verona, and Pleasant Grove USGS 7.5 minute quadrangles were used to conduct the searches.

Surveys Conducted

In 2005 and 2006, the applicant and ICF Jones & Stokes biologists used aerial photographic interpretation and field verifications to describe and map vegetation and land cover types occurring within 250 feet of the existing transmission line (Appendix B-1). Vegetation communities observed were categorized primarily according to the California Department of Fish and Game's 2003 *List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database* (DFG 2003). Noxious weed surveys were conducted in 2008 by ICF Jones & Stokes (PG&E 2009).

Waters of the United States, including wetlands, were initially delineated by ICF Jones & Stokes biologists in 2007 and 2008 during spring, summer and winter periods by both ICF Jones & Stokes and North State Resources biologists. Further wetland delineation was conducted by ICF Jones & Stokes in April and June of 2009, and in January and March of 2010 (ICF International 2010a). The study area for the delineation consisted of areas within 50 feet of all linear features, e.g., transmission lines, access roads and within 50 feet of all proposed project components/facilities, e.g., towers, substations, staging areas (see Appendix B-4 for a summary map of wetlands and waters found along the project route).

The wetland delineation was initially submitted to the U.S. Army Corps of Engineers (USACE) for verification in February 2009 and was subsequently verified by the Corps on June 23, 2009 (ICF International 2010a). Addenda to the delineation were submitted to the USACE due to project revisions

made after the initial application. As of the preparation of this document, the addendum to the wetland delineation has not been verified by the USACE.

The applicant's biologists conducted various general and focused wildlife habitat assessments of the project route from 2005 to 2009. Field biologists conducted habitat assessments for valley elderberry longhorn beetle (VELB; *Desmocerus californicus dimorphus*), vernal pool wildlife species, i.e., vernal pool fairy shrimp (*Branchinecta lynchi*), conservancy fairy shrimp (*B. conservatio*), vernal pool tadpole shrimp (*Lepidurus packardii*), California tiger salamander (*Ambystoma californiense*), and western spadefoot (*Spea hammondi*), giant garter snake (*Thamnophis couchi gigas*), California black rail (*Laterallus jamaicensis coturniculus*), and western burrowing owl (*Athene cunicularia hypugea*). Surveys for raptor nesting were conducted in 2005, 2006, and 2010. Raptor nesting surveys in 2010 focused on identifying potential Swainson's hawk nests. Special status plant surveys were completed in April of 2005 and April of 2009 by ICF Jones & Stokes botanists. Protocol-level surveys for listed vernal pool invertebrates were conducted in the wet season of 2006 to 2008 and the dry season of 2009 to determine the presence or absence of all listed branchiopods in vernal pools and other potential habitat features.

ICF Jones & Stokes conducted additional biological surveys in the spring and summer of 2009 (ICF Jones & Stokes 2009c) and spring of 2010 (ICF International 2010a, 2010b) to accommodate project revisions, including the addition of new work areas. These studies focused on giant garter snake habitat and vernal pool invertebrate species, and included revised habitat mapping and dry season sampling of vernal pool features. Special status plant surveys were conducted for added work areas during the additional wetland delineation surveys (i.e., January and March 2010) and in April 2010 to survey the newly proposed helicopter landing pad area. Appendices B-1 through B-3 depict habitat and occurrences of select special status species along the project route.

Regulatory Setting

Federal and State Regulations, Plans, and Standards

The project was evaluated to determine consistency with the following federal and state regulations, plans, and standards related to the protection of biological resources:

- Federal Endangered Species Act of 1973, which protects plants and animals that are listed by the federal government as “endangered” or “threatened;”
- Section 404 of the Clean Water Act, which regulates the discharge of dredge-and-fill material into waters of the United States including wetlands;
- Section 401 of the Clean Water Act, which requires a State Water Quality Certification (or waiver thereof) for activities requiring a USACE Section 404 permit, to ensure consistency with state water quality standards;
- Migratory Bird Treaty Act for protection of migratory birds, eggs, and nests;
- Bald and Golden Eagle Protection Act for protection of the bald eagle and the golden eagle;
- California Endangered Species Act for protection of state-listed threatened, endangered, and rare species as well as species of special concern (SSC) and fully protected species (FP);
- California Fish and Game Code, including Sections 1600 through 1616, 1802, 1900 et seq., 2050 et seq., 3503, 3503.5, 3511, 3513, 4700, 5050, and 5515, and Title 14, California Code of Regulations, Sections 670.2 and 670.5, for the conservation, protection, and management of the wildlife, native plants, and habitat necessary to maintain biologically sustainable populations;

- California Porter-Cologne Water Quality Control Act, for the fill or alteration of the waters of the state; and
- California Native Plant Society maintains a watch list of plant species that are rare, threatened, or endangered in California. Rare species are those that have elevated conservation concern at the state, regional, or local level. While the CNPS list does not confer legal protection of these species, the DFG utilizes and publishes this information in the California Natural Diversity Database to track these watch list species.

Local Regulations, Plans, and Standards

Butte County

Several policies identified in the Butte County General Plan (Butte County 2000) apply to biological resources in the regional area. Policies 6.5a through 6.5d include regulating development to prevent impacts to marshes and significant riparian habitats, and to rare or endangered plants or animals. The plan also encourages the creation and expansion of natural and wilderness areas, including the federally owned Feather Falls Scenic Area and the National Wild and Scenic River (Middle Fork of the Feather River), state owned Grey Lodge Waterfowl Management Area and the borrow area along Feather River, and wilderness areas near the northeast boundary of the county (Butte County 2000, Section 6.6a).

Sutter County

The Sutter County General Plan states that the county supports areas with significant biological resources and wildlife habitat (Sutter County 2008). Goals and polices in the plan related to biological resources are the general preservation and protection of open space and natural resources, reduction of pollution, and minimizing impacts to wildlife habitats from development.

Yuba County

The Yuba County General Plan provides goals, objectives, and policies that apply to biological resources in the regional area (Yuba County 1996, Sections 5 and 7). Goal 2 and 5 provide objectives and policies to enhance natural resources and open space lands, and to protect lands of unique value to plants, fisheries, waterfowl, and other forms of animal life. Policies include requiring no-net loss of wetlands and riparian habitats, retention of existing designated wildlife areas and protection from incompatible land uses, protection of waterfowl habitat areas, and connection of wildlife preserves and parklands to wildlife/opens space corridors. Natural vegetation and open space areas along the Yuba, Bear and Feather rivers are specifically targeted for protection as well.

Goal 7-OSCG of the Yuba County General plan is to conserve valley oaks and encourage the protection and regeneration of oak woodlands in foothill areas. Policies to support this goal are:

- **Policy 116-OSCP:** Project proponents shall identify and map the location of all Valley oaks on property proposed for a development project. Identification need not include individual trees where groves of Valley oaks are present, and need not include trees less than 6 inches in diameter at breast height.
- **Policy 117-OSCP:** The following guidelines shall be implemented by the County in order to preserve Valley oaks:
 - During any construction, fill should not be placed within an area which is 1.5 times the distance from the trunk to the dripline (the perimeter of the crown) of Valley oaks and no closer than 10 feet from the trunk. The dripline of the tree should be fenced during grading and construction.

- Soil compaction, which could damage root systems and interfere with vital gas and nutrient exchanges in the roots, should be prevented by not operating or storing heavy equipment within oak driplines.
- Excavations around trees should be minimized. Depth of excavations should be the minimum required. Utility lines should be combined in single trenches whenever possible.
- If roots need to be removed, they should be cut rather than torn and immediately covered with mulch or soil to prevent desiccation.
- Developers shall submit a tree protection plan along with grading and erosion control plans when Valley oaks are present on the site to be developed. The tree protection plan should include a planting replacement program for all Valley oaks removed, including a maintenance and monitoring program, and should also show how any snags present on the site will be retained where feasible when they do not pose a threat to public safety; and
- **Policy 118-OSCP:** All proposed parcel maps, subdivision maps and conditional use permits in areas containing oak woodlands shall show the location of existing oaks by canopy area. Based on the amount of existing canopy area on the project site, the determined amount of canopy must be retained.

City of Marysville

Section 5 of the City of Marysville General Plan applies to open space, conservation, and recreation near the project route within the City of Marysville (City of Marysville 1985). Policies that protect and conserve the natural resources, open space, and recreation lands in the city include: encouraging the preservation of wildlife habitat areas, protecting the fisheries of adjacent waterways; ensuring that existing natural resources areas, scenic areas, open space areas and parks are protected from encroachment or destruction by development; permitting open space and conservation land use within floodplains; and assuring that floodplains and waterways will not be polluted.

Applicant Proposed Measures

The applicant has incorporated the following applicant proposed measures (APMs) into the project to minimize or avoid impacts on biological resources. See Chapter 1.0 for a full description of each APM that the applicant has incorporated into the project to avoid or minimize impacts on all resource areas.

APM BIO-1: Conduct a preconstruction tree survey and avoid or compensate for tree removal

APM BIO-2: Implement general protection measures for wetlands and other waters

APM BIO-3: Conduct mandatory contractor/worker awareness training for construction personnel

APM BIO-4: Install construction barrier fencing to protect wetlands and other waters adjacent to the project area

APM BIO-5: Restore temporarily impacted wetlands and other waters to pre-construction condition

APM BIO-6: Monitor during and after disturbance in wetlands and other waters

APM BIO-7: Compensate for permanent impacts on wetlands and other waters caused by new structures

APM BIO-9: Avoid impacts on special status plants

APM BIO-10: Minimize impacts on special status plants

APM BIO-11: Restore habitat for special status plants disturbed during construction

- APM BIO-12:** Implement management practices to control the introduction and spread of invasive plants
- APM BIO-13:** Avoid or minimize effects on valley elderberry longhorn beetle during construction
- APM BIO-14:** Compensate for loss of valley elderberry longhorn beetle habitat and potential loss of individuals
- APM BIO-15:** Avoid or minimize impacts on habitat for vernal pool species during construction
- APM BIO-16:** Compensate for impacts to habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp
- APM BIO-17:** Minimize potential impacts on giant garter snake during construction with suitable habitat
- APM BIO-18:** Compensate for loss of aquatic and upland habitat for giant garter snake
- APM BIO-19:** Conduct a preconstruction survey for western pond turtles and monitor construction activities within suitable aquatic and upland habitat
- APM BIO-20:** Conduct preconstruction surveys for active burrowing owl burrows
- APM BIO-21:** Implement DFG (1995) guidelines for burrowing owl mitigation, if necessary
- APM BIO-22:** Conduct tree trimming, vegetation removal, and if possible, tower removal during the non-breeding season
- APM BIO-23:** Conduct preconstruction surveys for active special status and non-special status raptors and migratory birds
- APM BIO-24:** Avoid disturbance of active nests by helicopter use
- APM HYDRO-1:** Prepare and implement a storm water pollution prevention plan

3.4.2 Environmental Impacts and Mitigation Measures

- 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?*

LESS THAN SIGNIFICANT WITH MITIGATION. During 2005 and 2006, biologists used aerial images and field verification to describe and map vegetation and land cover types along the project route that included all lands within 250-feet of all project activities. Results from these initial efforts were used to identify potential locations of sensitive biological resources. To determine a list of sensitive or special status species and/or habitats that may potentially occur along the project route, records were searched from the CNDDDB; the CNPS's 2010 outline *Inventory of Rare and Endangered Plants of California*; USFWS list of endangered, threatened, and proposed species; and the DFG 2009 Special Animal List.

Special Status Plants

Initial special status plant early-blooming surveys were conducted in April 2005 along a 150-foot corridor centered along the existing transmission line. Additional early-blooming, special-status plants surveys were conducted during the spring of 2009 and 2010 to complete surveys of the additional work areas and access roads not included in the 2005 project design, but added to the 2008 project design. The 2009 surveys were conducted along meandering transects within a 250-foot wide corridor along the transmission line (ICF Jones & Stokes 2009c). The 2010 survey was focused on covering the small work

areas added along the proposed project route, such as the helicopter landing pad between towers 226 and 227 (ICF International 2010a and b). Botanists determined that the habitats along the project route were not suitable for late-blooming species, and therefore, late-blooming species surveys were not conducted (ICF Jones & Stokes 2009a).

A review of the database has identified 28 special status plants that have the potential to occur along the project route. Out of the 28 special status species, three of the species were determined not to be present along the project route due to altitudinal requirements, 8 species were determined to have a low potential for occurrence, four species were determined to have a moderate potential for occurrence, and thirteen species were determined to have a high potential for occurrence (ICF Jones & Stokes 2009a). Only two of the species, brown fox sedge (*Carex vulpinoidea*) and Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), were identified along the project route. Brown fox sedge was found near the intersection of Ramirez Road and the Western Pacific railroad line in Yuba County (Appendix B-1), while a population of Ahart's dwarf rush was found in a vernal pool west of towers 48 and 49 (ICF International 2010c). Brown fox sedge is not a federal or state-listed species but is designated by CNPS as a List 2.2 species. As defined by CNPS, a List 2.2 species is a species that is fairly endangered in California but is more common elsewhere. Ahart's dwarf rush is also not federally or state listed, but is CNPS List 1B.2, meaning the species is "rare, threatened, or endangered in California and elsewhere" and "fairly endangered in California." Table 3.4-2 contains a complete list of special status plant species, their legal status, their distribution, habitat requirements, and their potential for occurrence.

The occurrences of brown fox sedge and Ahart's dwarf rush are outside the footprint of disturbance for the project, thus no impacts to these occurrences are expected. Should any identified special status plants be found along the project route during implementation, those plants could be directly impacted by new tower installation, vegetation clearing, grading, or access road construction. Impacts may be temporary or permanent, and would be dependent on the type of construction activity. Through the implementation of measures APM BIO-9, APM BIO-10, and APM BIO-11, the potential impacts on special status plant species would be less than significant.

Noxious Weeds

Although noxious weeds and invasive species are not considered to be special status, they are known to result in negative effects on the abundance of native plant and wildlife species and are known to result in modification of habitats. This may create situations which may be unsuitable for special status plant and wildlife species. Through the implementation of APM BIO-12, the impacts created by the spread of noxious weeds would be less than significant.

Special Status Wildlife

During 2005 and 2006, biologists used aerial images and field verification to describe and map vegetation and land cover types within the initial project, which included all lands within 250 feet of all project activities. Results from these initial efforts were used to identify potential locations of sensitive wildlife resources. Biological surveys were then conducted by ICF Jones & Stokes biologists for various special status species, including valley elderberry longhorn beetle, vernal pool wildlife species, giant garter snake, and bird and raptor species. Table 3.4-3 describes the habitat requirements and a determination of the likelihood of occurrence for each special status wildlife species that has the potential to occur along the project route (ICF Jones & Stokes 2009a). Suitable habitat for special status wildlife was located within and adjacent to the project survey area, and several special status species were observed within and near the project route.

Table 3.4-2 Special Status Plant Species Identified as Having the Potential to Occur Along the Project Route

Common and Scientific Name	Legal Status ^a		Geographic Distribution/California Floristic Province ^c	Habitat Requirements ^b	Potential for Occurrence ^d
	Federal/State/CNPS	Blooming Period ^b			
Alkali milk-vetch <i>Astragalus tener</i> var. <i>tener</i>	-I-/1B.2	Mar–Jun	Merced, Solano, and Yolo Counties; historically more widespread	Alkaline soils in playas, adobe clay in valley and foothill grassland, vernal pools; below 197'	Low; no occurrences within 10 mi. of the project route and suitable microhabitat may not be present
Round-leaved filaree <i>California macrophylla</i> (formerly <i>Erodium macrophyllum</i>)	-I-/1B.1	Mar–May	Sacramento Valley, northern San Joaquin Valley, Central Western California, South Coast, & northern Channel Islands (Santa Cruz Island)	Clay soils in cismontane woodland, valley and foothill grassland; 49–3,937'	Low; no occurrences within 10 mi. of the project route and suitable microhabitat may not be present
Dissected-leaved toothwort <i>Cardamine pachystigma</i> var. <i>dissectifolia</i>	-I-/3	Feb–May	North Coast, Sacramento Valley in Butte, Glenn, Mendocino, Placer, Sonoma, and Tehama Counties	Chaparral, lower montane coniferous forest, typically in serpentine or rocky soils; 837–6,890'	None; project route occurs outside species elevation range
Brown fox sedge <i>Carex vulpinoidea</i>	-I-/2.2	May–Jun	Scattered occurrences from Siskiyou to Los Angeles Counties	Freshwater marshes and swamps, riparian woodland; 98–3,937'	High; Occurs within project area and nearest CNDDDB record is ~3 mi. away
Pink creamsacs <i>Castilleja rubicundula</i> ssp. <i>rubicundula</i>	-I-/1B.2	Apr–Jun	Scattered occurrences in the southern Inner North Coast Ranges from Shasta to Santa Clara Counties	Serpentine soils in chaparral, valley and foothill grassland, cismontane woodland, meadows and seeps; 66–2,953'	Moderate; nearest occurrence is ~3.5 mi. away and suitable microhabitat (i.e., serpentine) may not be present
Hoover's spurge <i>Chamaesyce hooveri</i>	T-/1B.2	Jul–Sep (uncommonly Oct)	Scattered occurrences in the Central Valley from Tehama to Tulare Counties	Deep playa vernal pools; 82–820'	Low; no occurrences within 10 mi. of project route
Brandegee's clarkia <i>Clarkia biloba</i> ssp. <i>brandegeae</i>	-I-/1B.2	May–Jul	Northern Sierra Nevada foothills from Butte to El Dorado Counties	Chaparral, cismontane woodland, often on roadcuts; 968–2,903'	None; project route occurs outside species elevation range

Table 3.4-2 Special Status Plant Species Identified as Having the Potential to Occur Along the Project Route

Common and Scientific Name	Legal Status ^a		Geographic Distribution/California Floristic Province ^c	Habitat Requirements ^b	Potential for Occurrence ^d
	Federal/State/CNPS	Blooming Period ^b			
Mosquin's clarkia <i>Clarkia mosquinii</i>	-/I/1B.1	May-Jul	Northern Sierra Nevada foothills in vicinity of Feather River Canyon near Pulga in northeast Butte County	Rocky, roadside areas in cismontane woodland and lower montane coniferous forest; 607-3,838'	None; project route occurs outside species elevation range
Recurved larkspur <i>Delphinium recurvatum</i>	-/I/1B.2	Mar-May	Central Valley from Colusa* to Kern Counties	Alkaline soils in valley and foothill grassland, saltbush scrub, cismontane woodland; below 2,460'	Low; no occurrences within 10 mi. of project route and suitable microhabitat may not be present
Dwarf downingia <i>Downingia pusilla</i>	-/I/2.2	Mar-May	Inner North Coast Ranges, southern Sacramento Valley, northern and central San Joaquin Valley	Mesic areas in valley and foothill grassland, vernal pools; below 1,460'	High; suitable habitat and microhabitat present and nearest occurrence is ~4mi. away
Butte County fritillary <i>Fritillaria eastwoodiae</i>	-/I/3.2	Mar-May	Sierra Nevada foothills from Shasta to Yuba Counties	Chaparral, cismontane woodland, and openings in lower montane coniferous forest, sometimes on serpentine; 164-4,921'	Moderate; nearest occurrence is ~6mi. away and suitable microhabitat (i.e., serpentine) may not be present
Adobe-lily <i>Fritillaria pluriflora</i>	-/I/1B.2	Feb-Apr	Northern Sierra Nevada foothills, Inner North Coast Ranges, edges of Sacramento Valley	Often adobe soils in chaparral, cismontane woodland, valley and foothill grassland; 197-2,313'	Low; no occurrences within 10 mi. of project route and suitable microhabitat may not be present
Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	-/E/1B.2	Apr-Aug	Inner North Coast Ranges, central Sierra Nevada foothills, Sacramento Valley, Modoc Plateau	Marshes and swamps along lake margins, vernal pools on clay soils; 33-7,792'	Low; no occurrences within 10 mi. of project route
Rose-mallow <i>Hibiscus lasiocarpus</i>	-/I/2.2	Jun-Sep	Central and southern Sacramento Valley, deltaic Central Valley, and elsewhere in the U.S.	Freshwater marshes and swamps; below 394'	High; suitable habitat present and nearest occurrence is ~5.5mi. away

Table 3.4-2 Special Status Plant Species Identified as Having the Potential to Occur Along the Project Route

Common and Scientific Name	Legal Status ^a		Geographic Distribution/California Floristic Province ^c	Habitat Requirements ^b	Potential for Occurrence ^d
	Federal/State/CNPS	Blooming Period ^b			
Ahart's dwarf rush <i>Juncus leiospermus</i> var. <i>ahartii</i>	-/-1B.2	Mar-May	Eastern Sacramento Valley, northeastern San Joaquin Valley with occurrences in Butte, Calaveras, Placer, Sacramento, and Yuba Counties	Wet areas in valley and foothill grassland, vernal pool margins; 98-328'	High; Occurs within the project area.
Red Bluff dwarf rush <i>Juncus leiospermus</i> var. <i>leiospermus</i>	-/-1B.1	Mar-May	Scattered occurrences in the northern Sacramento Valley, Cascade Range foothills from Shasta to Placer Counties	Vernally mesic areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; 115-3,346'	High; suitable habitat present and nearest occurrence is ~8mi. away
Legenere <i>Legenere limosa</i>	-/-1B.1	May-Jun	Sacramento Valley, North Coast Ranges, northern San Joaquin Valley and Santa Cruz mountains.	Vernal pools; below 2,887'	High; suitable habitat present and nearest occurrence is ~4mi. away
Butte County meadowfoam <i>Limnanthes floccosa</i> ssp. <i>californica</i>	E/E/1B.1	Mar-May	Endemic to Butte County	Wet areas in valley and foothill grassland, vernal pools and swales; 164-3,051'	High; suitable habitat present and nearest occurrence is ~8mi. away
Veiny monardella <i>Monardella douglasii</i> ssp. <i>venosa</i>	-/-1B.1	Mar-Jul	Occurrences in the northern and central Sierra Nevada foothills; also historically known from the Sacramento Valley	Clay soils in cismontane woodland, valley and foothill grassland; 197-1,345'	Moderate; occurrences within ~7mi. of project route and suitable microhabitat (i.e., clay) may not be present
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	-/-1B.1	Apr-Jul	Inner North Coast Ranges, western Sacramento Valley	Mesic areas in cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools; 16-5,709'	High; suitable habitat present and nearest occurrence is ~8.5mi. away

Table 3.4-2 Special Status Plant Species Identified as Having the Potential to Occur Along the Project Route

Common and Scientific Name	Legal Status ^a	Blooming Period ^b	Geographic Distribution/California Floristic Province ^c	Habitat Requirements ^b	Potential for Occurrence ^d
	Federal/State/CNPS				
Hairy Orcutt grass <i>Orcuttia pilosa</i>	E/E/1B.1	May–Sep	Scattered locations along east edge of Central Valley and adjacent foothills from Tehama to Merced Counties	Deep playa vernal pools; 180–656'	Low; no occurrences within 10 mi. of project route
Slender Orcutt grass <i>Orcuttia tenuis</i>	T/E/1B.1	May–Oct	Sierra Nevada and Cascade Range foothills from Siskiyou to Sacramento Counties	Deep playa vernal pools; 115–5,774'	High; suitable habitat present and nearest occurrence is ~2.5mi. away
Ahart's paronychia <i>Paronychia ahartii</i>	–/–/1B.1	Mar–Jun	Northern Central Valley in Butte, Shasta, and Tehama Counties	Cismontane woodland, valley and foothill grassland, vernal pools; 98–1,673'	High; suitable habitat present and nearest occurrence is ~1.5mi. away
Hartweg's golden sunburst <i>Pseudobahia bahiifolia</i>	E/E/1B.1	Mar–Apr	Scattered occurrences in the central Sierra Nevada foothills and eastern San Joaquin Valley from Yuba* to Madera Counties	Clay, often acidic soils in cismontane woodland, valley and foothill grassland; 49–492'	Moderate; nearest occurrence is ~2mi. away but suitable microhabitat (i.e., clay or acidic soils) may not be present
Sanford's arrowhead <i>Sagittaria sanfordii</i>	–/–/1B.2	May–Oct	Scattered locations in Central Valley and Coast Ranges	Freshwater marshes, sloughs, canals, and other slow-moving water habitats; below 2,132'	High; suitable habitat present and nearest occurrence is ~6mi. away
Wright's trichocoronis <i>Trichocoronis wrightii</i> var. <i>wrightii</i>	–/–/2.1	May–Sep	Scattered locations in the Central Valley and Southern Coast; Texas, northeastern Mexico	Floodplains, moist places, on alkaline soils, below 1,500'	Low; no occurrences within 10 mi. of project route and suitable microhabitat may not be present
Butte County golden clover <i>Trifolium jokerstii</i>	–/–/1B.2	Jun–Aug	Endemic to Butte County	Wet areas in valley and foothills grassland, vernal pools; 164–1,263'	High; suitable habitat present and nearest occurrence is ~7mi. away

Table 3.4-2 Special Status Plant Species Identified as Having the Potential to Occur Along the Project Route

Common and Scientific Name	Legal Status ^a	Blooming Period ^b	Geographic Distribution/California Floristic Province ^c	Habitat Requirements ^b	Potential for Occurrence ^d
	Federal/State/CNPS				
Greene's tuctoria <i>Tuctoria greenei</i>	E/R/1B.1	May-Sep	Scattered distribution along eastern Central Valley and foothills from Shasta to Tulare Counties	Dry deep playa vernal pools; 98-3,510'	High; suitable habitat present and nearest occurrence is ~8mi. away

^a Status explanations:

Federal

- E = listed as endangered under the federal Endangered Species Act.
- T = listed as threatened under the federal Endangered Species Act.
- = no listing.

State

- E = listed as endangered under the California Endangered Species Act.
- T = listed as threatened under the California Endangered Species Act.
- R = listed as rare under the California Native Plant Protection Act (this category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation)
- = no listing.

California Native Plant Society

- 1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
- 2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere
- 3 = List 3 species: plants about which more information is needed to determine their status.
- 0.1 = seriously endangered in California
- 0.2 = fairly endangered in California
- = no listing.
- * = known populations believed extirpated from that County

^b As reported in the 2010 CNPS online *Inventory of Rare and Endangered Plants of California* (CNPS 2010)

^c As indicated in the Jepson Manual (Hickman 1993) and CNPS 2010 online *Inventory of Rare and Endangered Plants of California* (CNPS 2010)

^d Potential for Occurrence definitions:

High: Known CNDDDB occurrence of plant in region, or other documents in the project vicinity; or presence of suitable habitat conditions and suitable microhabitat conditions.

Moderate: Known CNDDDB occurrence of plant in region or reported in other documents in the project vicinity; or presence of suitable habitat conditions but not suitable microhabitat conditions.

Low: Plant not known to occur in the region from the CNDDDB, or other documents in the project vicinity; or habitat conditions of poor quality.

None: Plant not known to occur in the region from the CNDDDB, or other documents in the project vicinity; or suitable habitat not present in any condition.

Table 3.4-3 Special Status Wildlife Species Identified as Having the Potential to Occur in the Study Area

Common and Scientific Names	Status Federal/State	Geographic Distribution	Habitat Requirements	Potential Occurrence in Study Area
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	E/--	Northern two-thirds of the Central Valley floor. Disjunct occurrences in Solano, Merced, Stanislaus, Tehama, Butte, and Glenn Counties.	Large, deep vernal pools or playas with relatively long ponding duration. Associated with large areas of annual grasslands supporting vernal pools and swales.	Low; Nearest occurrence located greater than 3.5 miles north of the study area; Species does not occur in two suitable habitat features observed in the study area.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T/--	Central Valley and central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County.	Common in vernal pools and other ephemeral wetlands in annual grassland; also found in sandstone rock outcrop pools.	High; Several occurrences within 5-miles of the study area. Suitable habitat present in study area.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	E/--	Shasta County south to Merced County	Vernal pools, seasonal wetlands, and ephemeral stock ponds in annual grassland. Also occurs locally in railroad right-of-way pools and roadside ditches.	High; Observed in several pools within the study area. Suitable habitat present in study area.
Valley elderberry longhorn beetle <i>Desmocercus californicus dimorphus</i>	T/--	Stream side habitats below 3,000 feet throughout the Central Valley. Largest known populations are associated with the Sacramento River, American River, San Joaquin River, and Putah Creek watersheds.	Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant for larvae and primary food source for adults.	High; Several occurrences in or near the Feather River, Bear River, Yuba River, Honcut Creek, and Wilson Creek drainages. Suitable habitat present in the study area.
Green Sturgeon <i>Acipenser medirostris</i>	T/SSC	Marine from British Columbia to the Bering sea; spawns in lower reaches of large rivers from British Columbia to San Francisco Bay. In Central Valley, Sacramento River upstream of Hamilton City to Keswick Dam and possibly lower Feather River.	Adults migrate into large rivers between late February and July and spawn between March and July. Young rear near the spawning ground and appear to remain in the river through the first winter. Food sources are benthic invertebrates and small fish.	High; Known to occur in Feather River although spawning population has not been confirmed. Suitable habitat occurs in the study area at the Feather River crossing only.

Table 3.4-3 Special Status Wildlife Species Identified as Having the Potential to Occur in the Study Area

Common and Scientific Names	Status Federal/State	Geographic Distribution	Habitat Requirements	Potential Occurrence in Study Area
Steelhead, Central Valley <i>Oncorhynchus mykiss irideus</i>	T/SSC	California coastal and Central Valley drainages; recent declines in the tributaries of the Sacramento River.	Occurs in well-oxygenated, cool, riverine habitat. Adults typically spawn on gravel bars from December through April. Young spend at least 1-year in fresh water, migrate to marine habitats, and return to the natal stream at 3- or 4-years-old. Young feed primarily on benthic invertebrates.	High; Known to occur in lower Feather River, Yuba River, Bear River, Honcut Creek, and Wyandotte Creek from July through March; suitable habitat occurs in the study area at these drainage crossings.
Spring-run Chinook salmon, Central Valley <i>Oncorhynchus tshawytscha</i>	T/SSC	Wild populations in the Sacramento River and its tributaries, including the Yuba River, Mill Creek, Deer Creek, and Butte Creek. Feather River spring-run salmon are primarily hatchery fish. Critical habitat is designated in the Feather River up to Lake Oroville, the lower Yuba River, and the lower Bear River.	Adults migrate into the Sacramento River from April through June, remaining in deep water habitats until eggs develop. Spawning occurs upstream from mid-August through early October.	Moderate; Known to occur in the lower Yuba River. Suitable migration habitat in the study area located within the Yuba River.
Winter-run Chinook salmon, Sacramento River <i>Oncorhynchus tshawytscha</i>	E/E	Mainstem Sacramento River below Keswick Dam.	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 8.0 to 12.5°C. Habitat types are riffles, runs, and pools.	Low; Not known to occur in rivers spanned by the project; Potentially suitable habitat is present in Yuba River.
California tiger salamander <i>Ambystoma californiense</i> (= <i>A. tigrinum c.</i>)	T/SSC	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Small ponds, lakes, or vernal pools in grass-lands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy	Low; No known occurrences within 10-miles of study area. Suitable habitat is present.
Western spadefoot <i>Scaphiopus hammondi</i>	--/SSC	Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in southern California	Shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands.	Moderate; Known occurrence within 3-miles of study area near Wyandotte Creek. Suitable habitat is present.

Table 3.4-3 Special Status Wildlife Species Identified as Having the Potential to Occur in the Study Area

Common and Scientific Names	Status Federal/State	Geographic Distribution	Habitat Requirements	Potential Occurrence in Study Area
Foothill yellow-legged frog <i>Rana boylei</i>	--/SSC	Occurs in the Klamath, Cascade, north Coast, south Coast, Transverse, and Sierra Nevada Ranges up to approximately 6,000 feet	Creeks or rivers in woodland, forest, mixed chaparral, and wet meadow habitats with rock and gravel substrate and low overhanging vegetation along the edge. Usually found near riffles with rocks and sunny banks nearby.	Low; No known occurrences within 10-miles of study area. Suitable habitat present along Wyman Ravine near Palermo.
California red-legged frog <i>Rana aurora draytoni</i>	T/SSC	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehema County to Fresno County.	Permanent and semipermanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods.	Low; No known occurrences within 10-miles of study area. Suitable habitat present in study area. Possibly extirpated from Central Valley floor.
Western pond turtle <i>Actinemmys marmorata</i>	--/SSC	Occurs from the Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests	High; Several known occurrences in Yuba River, Feather River, Dry Creek, and Wyandotte Creek drainages within 10-miles of the study area. Suitable habitat is present in the study area near the Yuba and Bear Rivers, Honcut and Wyandotte Creeks, and Wyman Ravine.
California horned lizard <i>Phrynosoma coronatum frontale</i>	--/SSC	Sacramento Valley, including foothills, south to southern California; Coast Ranges south of Sonoma County; below 4,000 feet in northern California	Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging	Moderate; Nearest known occurrence located greater than 10-miles north of project. Suitable habitat present in the study area.
Giant garter snake <i>Thamnophis couchi gigas</i>	T/T	Central Valley from the vicinity of Burrel in Fresno County north to near Chico in Butte County; has been extirpated from areas south of Fresno	Sloughs, canals, low gradient streams and freshwater marsh habitats where there is a prey base of small fish and amphibians; also found in irrigation ditches and rice fields; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter	High; Several known occurrences located within 5-miles of the study area. A significant population associated with Feather River and Cross Canal occurs south of the project. Suitable aquatic habitat is present in several sloughs and rice fields in the study area.

Table 3.4-3 Special Status Wildlife Species Identified as Having the Potential to Occur in the Study Area

Common and Scientific Names	Status Federal/State	Geographic Distribution	Habitat Requirements	Potential Occurrence in Study Area
Least bittern <i>Lxobrychus exilis (nesting)</i>	--/SSC	Permanent resident along the Colorado River and Salton Sea and in isolated areas of Imperial, San Diego, and Los Angeles Counties; summers in marshlands of Yolo and Sutter Counties, at Tulare Lake, and in parts of Fresno, Merced, Madera, Siskiyou, and Modoc Counties	Marshes and along pond edges where tule and rushes provide cover; nests are built over water and low in thick tule.	Low; No record of nesting within 10-miles of study area. Freshwater marsh and small stands of tule in the study area provide low quality nesting habitat.
White-faced ibis <i>Plegadis chihi (rookery site)</i>	--/SSC	Both resident and winter populations on the Salton Sea and in isolated areas in Imperial, San Diego, Ventura, and Fresno Counties; breeds at Honey Lake, Lassen County, at Mendota Wildlife Management Area, Fresno County, and near Woodland, Yolo County; win	Prefers freshwater marshes with tules, cattails, and rushes, but may nest in trees and forage in flooded agricultural fields, especially flooded rice fields	Low; Adult birds observed in project region; no record of rookery site reported within 10-miles of the study area. Freshwater marsh and stands of tule in the study area provide low quality habitat for rookeries.
White-tailed kite <i>Elanus leucurus</i>	--/FP	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging	High; Observed foraging in study area. Suitable nesting habitat present in the study area; potential nests observed within 0.5-mile of the project.
Northern harrier <i>Circus cyaneus</i>	--/SSC	Occurs throughout lowland California. Has been recorded in fall at high elevations	Grasslands, meadows, marshes, and seasonal and agricultural wetlands	High; Observed foraging in study area. Suitable nesting and foraging habitat is present.
Swainson's hawk <i>Buteo swainsoni</i>	--/T	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields	High; Known to occur in the study area; over 100 records of nesting activity and additional records of foraging reported within 10-miles of the project route since 1979. Suitable nesting and foraging habitat is present.
Golden eagle <i>Aquila chrysaetos</i>	--/FP	Foothills and mountains throughout California. Uncommon nonbreeding visitor to lowlands such as the Central Valley	Nest on cliffs and escarpments or in tall trees overlooking open country. Forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals	Low; No records of occurrence reported from within 10-miles of the study area. Suitable foraging habitat in study area.

Table 3.4-3 Special Status Wildlife Species Identified as Having the Potential to Occur in the Study Area

Common and Scientific Names	Status Federal/State	Geographic Distribution	Habitat Requirements	Potential Occurrence in Study Area
Bald eagle <i>Haliaeetus leucocephalus</i>	--/E, FP	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin. Reintroduced into central coast. Winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County	In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, stream, or the ocean	Moderate; Reported to nest at Lake Oroville, approximately 8-miles north of the study area. Low quality foraging habitat is present at river crossings within the study area.
California black rail <i>Laterallus jamaicensis coturniculus</i>	--/T, FP	Permanent resident in the San Francisco Bay and east-ward through the Delta into Sacramento and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties	Tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations	High; Numerous records of occurrence within 2mi. of project route. Suitable nesting and foraging habitat is present.
Greater sandhill crane <i>Grus canadensis tabida</i>	--/T, FP	Breeds in Siskiyou, Modoc, Lassen, Plumas, and Sierra Counties. Winters in the Central Valley, southern Imperial County, Lake Havasu National Wildlife Refuge, and the Colorado River Indian Reserve	Summers in open terrain near shallow lakes or freshwater marshes. Winters in plains and valleys near bodies of fresh water	Low; Not observed in study area. Suitable wintering habitat present in fields and marshes located in and adjacent to the study area. Three female specimens were collected from near Gridley in 1924.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	C/E	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers	Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley-oak riparian habitats where scrub jays are abundant	Moderate; Historic records of occurrence reported from the Feather River near Marysville; most recent observation in this vicinity was reported in 1986. Suitable habitat may be present in riparian forest along the Bear River, Yuba river, and Honcut Creeks.
Western burrowing owl <i>Athene cunicularia hypugea</i>	--/SSC	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast.	Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows.	High; CNDDB reports 4 records of burrowing owl observations within 10-miles of the study area. Active burrows not observed in study; Suitable foraging, wintering, and breeding habitat are present in annual grasslands.

Table 3.4-3 Special Status Wildlife Species Identified as Having the Potential to Occur in the Study Area

Common and Scientific Names	Status Federal/State	Geographic Distribution	Habitat Requirements	Potential Occurrence in Study Area
Long-eared owl <i>Asio otus</i>	--/SSC	Permanent resident east of the Cascade Range from Placer County north to the Oregon border, east of the Sierra Nevada from Alpine County to Inyo County. Scattered breeding populations along the coast and in southeastern California. Winters throughout the Central Valley and southeastern California	Nests in abandoned crow, hawk, or magpie nests, usually in dense riparian stands of willows, cottonwoods, live oaks, or conifers	Low; No records of observation reported within 10-miles of study area. Low quality wintering habitat present.
Loggerhead shrike <i>Lanius ludovicianus</i>	--/SSC	Resident and winter visitor in lowlands and foothills throughout California. Rare on coastal slope north of Mendocino County, occurring only in winter.	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	High; One observation of a breeding pair reported from along Gold Run Creek, approximately 10-miles northwest of the study area. Suitable habitat is present.
Bank swallow <i>Riparia riparia</i>	--/T	Occurs along the Sacramento River from Tehama County to Sacramento County, along the Feather and lower American Rivers, in the Owens Valley; and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou Counties. Small populations near the coast from San Francisco County to Monterey County	Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam	Moderate; CNDDDB reports 34 records of observations within 10-miles of the study area. Low quality suitable habitat may be present at river crossings.
Yellow warbler <i>Dendroica petechia</i>	--/SSC	Nests over all of California except the Central Valley, the Mojave Desert region, and high altitudes in the Sierra Nevada. Winters along the Colorado River and in parts of Imperial and Riverside Counties	Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral; may also use oaks, conifers, and urban areas near stream courses	Moderate; One record of observation reported from approximately 10-miles northwest of the study area. Low quality suitable habitat may be present in riparian forest along river crossings.
Grasshopper Sparrow <i>Ammodramus savannarum</i>	--/SSC	Breeds locally from Del Norte, Trinity, and Tehama counties south, west of the Cascade-Sierra Nevada axis and southeastern deserts to Sand Diego County; from sea level to 4900 feet. Rare breeder in the Shasta Valley, Siskiyou County and on the valley floor in the Central Valley.	Prefer large tracts of short to middle height, moderately open grasslands with scattered shrubs.	Low; No records of observation within 10-miles of study area. Suitable habitat is present.

Table 3.4-3 Special Status Wildlife Species Identified as Having the Potential to Occur in the Study Area

Common and Scientific Names	Status Federal/State	Geographic Distribution	Habitat Requirements	Potential Occurrence in Study Area
Tricolored blackbird <i>Agelaius tricolor</i>	--/SSC	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony	High; CNDDDB reports 20 records of occurrence within 10-miles of the study area, of which only 7 are presumed extant. Habitat suitable for relatively small colonies is present.
Pallid bat <i>Antrozous pallidus</i>	--/SSC	Occurs throughout California except the high Sierra from Shasta to Kern County and the northwest coast, primarily at lower and mid elevations	Occurs in a variety of habitats from desert to coniferous forest. Most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland, and desert scrub in southern California. Relies heavily on trees for roosts	Low; no records of occurrence reported within 10-miles of study area. Low quality suitable habitat may be present.
Western red bat <i>Lasiurus blossevillii</i>	--/SSC	Scattered throughout much of California at lower elevations	Found primarily in riparian and wooded habitats. Occurs at least seasonally in urban areas. Day roosts in trees within the foliage. Found in fruit orchards and sycamore riparian habitats in the central valley	Moderate; One record of observation reported from the Sacramento River approximately 10-miles southwest of the study area. Low quality suitable habitat may be present.

Table 3.4-3 Special Status Wildlife Species Identified as Having the Potential to Occur in the Study Area

Common and Scientific Names	Status Federal/State	Geographic Distribution	Habitat Requirements	Potential Occurrence in Study Area
Western mastiff bat <i>Eumops perotis californicus</i>	--/SSC	Southwestern United States and central Mexico. In California, the species has been observed roosting up to 1,300 feet and foraging at > 8,800 feet. The distribution of <i>E. perotis</i> is likely geomorphically determined, with the species being present only where there are significant rock features offering suitable roosting habitat.	Although most frequently encountered in broad open areas, the species occurs in a variety of habitats: dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas.	Moderate; CNDDDB reports three records of occurrence from near Oroville, approximately 6 miles north of the study area. Low quality suitable habitat may be present.

Status explanations:

Federal

- E = listed as endangered under the federal Endangered Species Act.
- T = listed as threatened under the federal Endangered Species Act.
- PT = proposed for federal listing as threatened under the federal Endangered Species Act.
- C = species for which USFWS has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list, but issuance of the proposed rule is precluded.
- = no listing.

State

- E = listed as endangered under the California Endangered Species Act.
- T = listed as threatened under the California Endangered Species Act.
- FP = fully protected under the California Fish and Game Code.
- SSC = species of special concern in California.
- = no listing.

Potential Occurrence in the Study Area

- High: Known occurrences of the species within the study area; or California Natural Diversity Database, or other documents, reports occurrence of the species within a 10-mile radius of the study area. Suitable habitat is present within the study area.
- Moderate: California Natural Diversity Database, or other documents, reports known occurrence of the species within a 10-mile radius of the study area. Poor quality suitable habitat is present within the study area.
- Low: California Natural Diversity Database, or other documents, does not record the occurrence of the species within a 10-mile radius of the study area. Suitable habitat is present within the study area.

Impacts on these species may occur from construction activities associated with reconductoring of the transmission line, replacement and installation of tower poles, temporary access road construction, and temporary work staging areas. Although the majority of construction staging activities, including onsite and offsite vehicle movement, would occur during daytime hours, the applicant also proposes to conduct night lighting activity during the summer work window (June 1st to October 1st) for raising towers along the transmission line. Night lighting would occur for approximately 12-hour periods (i.e., 7 pm to 7 am), at a maximum of three tower locations at a time along the project route. Nighttime construction lighting would be shielded at the sides and/or back with cutoffs or shades. The applicant would consult with onsite biological experts and monitors to position and direct lights to minimize intrusion on adjacent sensitive habitats to the extent feasible with regard to workplace safety.

Specific impacts are discussed below for each species.

Valley Elderberry Longhorn Beetle

The VELB is a federally listed threatened species under the ESA. It is dependent upon the host plant, which can be either red or blue elderberry (*Sambucus* spp.), throughout its life cycle. Elderberry that support VELB have been observed in both riparian habitat and savannah habitat associated with riparian vegetation (Collinge et al. 2001). The combined 2006 and 2008 biological field surveys identified 26 shrubs or clusters of shrubs located within 20 feet of the project route and an additional 58 shrubs or clusters located within 100 feet of the project route (Appendix B-2). Observations made during the surveys did not find any evidence indicating the presence of VELB along the project route (ICF Jones & Stokes 2009b). The project area does not contain any formally designated critical habitat for VELB. However, review of the CNDDDB (2010) identified 22 occurrences of VELB within 3 miles of the project route, located primarily along riparian habitat associated with the Yuba and Sacramento rivers.

Eight shrubs or clusters of shrubs with at least 200 stems were located by ICF Jones & Stokes within 20 feet of the project route that would be directly impacted by being either removed or trimmed for construction or for maintenance of the existing utility corridor. The remaining 18 shrubs or clusters of shrubs within 20 feet of the project route may potentially be indirectly impacted. There are 12 of these elderberry shrubs that are located directly beneath or inside of existing tower structures, though one of the identified shrubs (under tower 26) may possibly be dead (ICF Jones & Stokes 2009b).

Additionally, the drip lines of 44 elderberry shrubs or clusters are located within 100 feet but not within 20 feet of the project route. There is the potential for indirect impacts to shrubs and clusters of shrubs located within 100 feet through the possibility of altered hydrology or water table, increased air-borne dust or disease, and herbicide application (ICF Jones & Stokes 2009b).

There is the potential for a significant impact on VELB due to the permanent loss of eight elderberry shrubs or clusters of shrubs and temporary disturbance of additional potential habitat. However, none of the elderberry shrubs or clusters of shrubs identified along the project route had evidence of VELB occupation, and several of the identified shrubs are isolated and not associated with the riparian habitat. The loss of habitat is not likely to significantly reduce the availability of suitable VELB habitat, but there is potential for significant impact if an occupied shrub is affected. With the incorporation of APM BIO-13 and APM BIO-14, however, impacts to VELB would be less than significant.

Vernal Pool Species

The vernal pool fairy shrimp (*Branchinecta lynchi*), federally listed as threatened under the ESA, and the vernal pool tadpole shrimp (*Lepidurus packardii*), federally listed as endangered under the ESA, are both dependent upon vernal pool habitats for their life cycle. Approximately 45.07 acres of potential habitat

for vernal pool fairy and tadpole shrimp occurs within 250 feet of proposed work areas or access roads (Appendix B-2). The vernal pool fairy shrimp was not observed during the wet season biological surveys conducted 2006 through 2008 by ICF Jones & Stokes (2009b), but occurrences have been documented within 4 miles of the project in pools located south of the project near Catlett Road in Sutter County, east of the project near Sheridan in Sutter County and on Beale Air Force base in Yuba County, and northwest of the project near the cities of Thermalito and Shippee in Butte County. The vernal tadpole shrimp was documented as occurring along the project route. Three populations were identified during the 2005 habitat assessment surveys and during the 2006 through 2008 protocol-level surveys by ICF Jones & Stokes (2009b) (Appendix B-2). Adult tadpole shrimp were observed in eight potential habitat features along the project route. Additional dry season sampling was conducted in vernal pools in 2009 along the project route (ICF Jones & Stokes 2009c). Dry season sampling was conducted in those pools that were surveyed in 2007 and 2008 and found not to support vernal pool species during surveys.

For all potential habitats along the project route that were not surveyed during the 2005 through 2009 biological surveys, vernal pool fairy shrimp and vernal pool tadpole shrimp are assumed to be present (Appendix B-2). Construction activities, such as staging, grading, and excavation, would result in temporary or permanent impacts to suitable habitat. The construction of new structures and poles would permanently impact 0.0026 acres of suitable vernal pool habitat (ICF International 2010a). Construction activities in staging areas, pull sites, and temporary access roads would have temporarily direct impacts on approximately 0.38 acres of suitable vernal pool habitat (ICF Jones & Stokes 2009c). The project would indirectly affect 7.10 acres of suitable habitat within 250 feet of work areas and temporary access roads where work may be conducted during the wet season.

Artificial night lighting may affect aquatic invertebrates through modification of photoperiodic behaviors such as mating and foraging. Aquatic zooplankton have exhibited different behaviors in wetlands that had a natural photoperiod and those that were subject to artificial lighting (Longcore & Rich 2001). This could lead to increased algae levels and possible deterioration of water quality if zooplankton do not migrate to the water surface to forage on algae due to changed lighting levels. These changes could also lead to alteration in the abundance and diversity of the special status invertebrate species (Longcore & Rich 2001). However, changes in night lighting are not expected to significantly affect vernal pool invertebrates due to the overall short-term nature of the activity (5 months), the limited activity at any one location, and the directional shielding of lights away from aquatic habitats.

The direct removal, filling, and hydrological interruption of vernal pools, seasonal wetlands, and other suitable habitat or the surrounding uplands would constitute a potentially significant impact on vernal pool invertebrate species. Through the implementation of measures APM BIO-15 and APM BIO-16, the potential impact on the vernal pool fairy shrimp and the vernal pool tadpole shrimp would be less than significant.

The conservancy fairy shrimp (*Branchinecta conservatio*), federally listed as an endangered species, is dependent on vernal pools or seasonal wetlands during its life cycle. Though there is the potential for suitable habitat along the project route, no individuals were observed during protocol level surveys (ICF Jones & Stokes 2009b). Additionally, the CNDDDB (2010) does not have any records for conservancy fairy shrimp from within 10 miles of the project route, and there is a lack of historical presence in the region. Impacts on conservancy fairy shrimp would be less than significant.

Giant Garter Snake

The giant garter snake (*Thamnophis couchi gigas*) is federally listed as a threatened species under the ESA. Suitable giant garter snake habitat must have adequate water present from early-spring through mid-

fall and may include marshes and agricultural wetlands or waterways such as rice fields, irrigation and drainage canals, sloughs, ponds, small lakes, and low gradient streams.

ICF Jones & Stokes (2009b) conducted reconnaissance-level surveys for giant garter snakes and suitable habitat, and no individuals were observed along the project route during any of the biological surveys conducted between 2005 through 2009 (Appendix B-3). However, the CNDDDB (2010) identified 47 records of giant garter snake occurrence within 10 miles of the project route, with a significant population identified approximately five miles to the south within the aquatic habitats along Cross Canal, between Feather River and Eastside Canal. Along the project route, there is suitable giant garter snake habitat in the form of rice fields, sloughs, agricultural ditches, canals, and surrounding upland areas (within 200 feet of aquatic habitats) (Appendix B-3).

According to biological surveys, approximately 0.08 acres (0.006 acres aquatic, 0.074 acres upland) of giant garter snake habitat would be permanently impacted due to the installation of new structures and poles. A total of approximately 37.2 acres (2.87 acres aquatic, 17.35 acres rice field, and 16.96 acres upland) would be temporarily (one season) impacted by construction activities within temporary work areas and access roads (ICF International 2010a). Additionally, potential suitable habitat for the giant garter snake would be temporarily lost due to the fallowing of 298.40 acres of rice fields for one season due to project related activities (ICF Jones & Stokes 2009b). Portions of fallow rice fields would be directly impacted by project activities which would include the construction of temporary barrier berms to limit giant garter snake access to construction areas. These berms would be removed once construction is completed. Artificial night lighting may also affect the behavior of the giant garter snake in its aquatic habitat, particularly during the summer months when this diurnal species can be active on warm evenings (California Herps 2010).

Temporary and permanent loss of aquatic and upland habitat, potential loss of individuals, and disruption of movement during the breeding season would be considered a significant impact because it would result in a substantial adverse effect on this federally listed species. However, through the implementation of APM BIO-2, APM BIO-17, APM BIO-18, and MM-BIO-1, the potential impact on giant garter snake would be reduced to less than significant. Additionally, the applicant would reduce potential impacts from night lighting by the limited nature of the activity at any one location and through directional shielding of lights away from aquatic habitats. These combined measures are expected to reduce effects on the giant garter snake through habitat impact avoidance and minimization, and through compensating for unavoidable impacts. As such, the project would not appreciably reduce the reproduction, numbers, or distribution of the giant garter snake, and would result in less than significant impacts on the species.

MM BIO-1: Rice Field Fallowing Activities, Berm Construction and Removal, and Habitat Restoration. The applicant will implement measures, including payment of reasonable compensation where appropriate, designed to insure the restoration of fallowed fields. Prior to, during, and/or after berm construction and dewatering of potential giant garter snake rice field habitat, the applicant will adhere to measures within the Biological Opinion issued by the US Fish and Wildlife Service and any Incidental Take Permit/Consistency Determination issued by the California Department of Fish and Game.

California horned lizard

The California horned lizard (*Phrynosoma coronatum frontale*) is a California Species of Special Concern and occurs in a variety of habitats, such as clearing in riparian woodlands, chamise chaparral, and grasslands with loose, friable soils. Though the project area contains potential suitable habitat, none were observed during the general field surveys (ICF Jones & Stokes 2009b) and CNDDDB (2010) has no records of California horned lizard within 10 miles of the project route. The likelihood of occurrence for

this species is moderate due to the presence of potential suitable habitat in the form of sandy soils associated with several seasonal washes located within the Yuba River floodplain (ICF Jones & Stokes 2009b). No project activities would be conducted within the Yuba floodplain; therefore habitat for the California horned lizard would not be affected. The impact on this species would be less than significant.

Western Pond Turtle

The western pond turtle (*Actinemys marmorata*) is designated by DFG as a California Species of Special Concern. The western pond turtle commonly inhabits slow-water aquatic habitat in rivers, streams, and ponds. Suitable habitat for this species occurs in the slow-water aquatic habitats crossed by the project route (ICF Jones & Stokes 2009b) (Appendix B-4). The CNDDDB (2010) reports 11 records of western pond turtle occurrences within 10 miles of the project route. In the vicinity of the project, the western pond turtle has been observed in the Feather River, Yuba River, Dry Creek, and Wyandotte drainages.

Construction activities in annual grassland within 1,300 feet of suitable aquatic habitat could crush western pond turtles or pond turtle nests containing eggs or young. Furthermore, indirect impacts could occur if sediments or hazardous materials enter suitable pond turtle aquatic habitat or alteration in behavior from artificial night lighting. Like the giant garter snake, the western pond turtle may be nocturnal during warm summer nights (California Herps 2010). Through the implementation of APM BIO-19, the potential impacts to the western pond turtle would be less than significant. Additionally, the applicant would reduce impacts from night lighting by limiting activity at any one location and through directional shielding of lights away from aquatic habitats.

Western Spadefoot

The western spadefoot (*Scaphiopus hammondi*) is an amphibian designated by DFG as a California Species of Special Concern. The western spadefoot can be found in dry grassland habitat located in close proximity to wetlands, such as vernal pool complexes, typically near areas of friable (but usually not sandy) soils. There is the occurrence of 81.2 acres of potential suitable breeding habitat for the western spadefoot along the project route, including 75 acres of seasonal wetlands and 6.06 acres of vernal pools. Additionally, grasslands adjacent to the project route may serve as aestivating habitat for the western spadefoot (ICF Jones & Stokes 2009b). CNDDDB (2010) reports two records of western spadefoot within 10 miles of the project route. One of these occurrences, reported in 1953, was located approximately three miles from the project near Palermo, while the other occurrence was reported approximately 10 miles southeast of the project, near Pleasant Grove.

Temporary and permanent loss of aquatic and upland habitat and the potential loss of individuals and disruption of movement during the breeding season would be considered a significant impact because it would result in a substantial adverse effect on this amphibian species. Additionally, construction night lighting activity could significantly affect the behavior of this nocturnal species. Artificial night lighting has been shown to affect the behavior of nocturnal frogs and toads by reducing their visual acuity and ability to consume prey (Saleh 2007). Amphibians which are particular about the light levels in which they forage may either avoid lighted areas initially, or may become attracted to lighted areas after a period of adjusting to the light (Longcore & Rich 2004). Increased night lighting adjacent to both wetlands and upland habitats can therefore affect the abundance of this species or affect its ability to forage.

Through the implementation of APM BIO-2, APM BIO-3, APM BIO-4, APM BIO-5, APM BIO-6, APM BIO-7, APM BIO-15, and APM BIO-16, the potential impacts to the western spadefoot would be less than significant. Impacts on the species from short-term night lighting would be significant, and thus MM BIO-2 is required, in addition to the APMs, to reduce impacts to less than significant levels.

MM BIO-2: Reduce Construction Night Lighting Impacts on Sensitive Habitats. The applicant will implement measures to insure the reduction of construction night lighting impacts on sensitive habitats and special status wildlife. Exterior night lighting along the project route adjacent to aquatic and riparian habitat will be the lowest illumination allowed for human safety and selectively placed a minimum of 50 feet from those habitats except where workplace safety prevents this minimum distance. All construction night lighting will be shielded with cutoffs and/or shades. Vehicle traffic associated with nighttime project activities will be kept to a minimum volume and 15 mph on all non-public roads to prevent mortality of nocturnal wildlife species.

Other Amphibians

There are three additional amphibian species of special status that have the potential to occur along the project route: the California red-legged frog (*Rana aurora draytoni*) and the California tiger salamander (*Ambystoma californiense* [*A. tigrinum* c.]), both ESA-listed Threatened species; and the foothill yellow-legged frog (*Rana boylei*), designated by DFG as a California Species of Special Concern. All three species are dependent upon aquatic habitat during their life cycle, and while there is potential suitable habitat along the project route, the likelihood of occurrence of these species is low (ICF Jones & Stokes 2009a) due to the CNDDDB (2010) not having any records of either species within 10 miles of the project route. The impacts to these amphibian species would, therefore, be less than significant.

Green Sturgeon, Chinook Salmon, and Central Valley Steelhead

The southern distinct population segment (DPS) of the green sturgeon (*Acipenser medirostris*) has been designated as federally threatened by National Oceanic and Atmospheric Administration's (NOAA's) National Marine Fisheries Service (NMFS) and is known to occur in the lower reaches of the Yuba River, which transects the project route. In 2008, NMFS proposed critical habitat for the southern DPS of the green sturgeon that includes the lower reaches of the Yuba River, but a final decision has not been determined (NOAA 2009). The Central Valley DPS of steelhead (*Oncorhynchus mykiss irideus*) is designated as a federally threatened species and is known to occur in the lower reaches of the Yuba and Bear rivers, which are both located along the project route. Additionally, the lower reaches of the Yuba and Bear River have been designated as critical habitat for the Central Valley steelhead. The Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*) Evolutionary Significant Unit is designated as federally threatened species and is known to occur in the lower reaches of the Yuba River. The lower reaches of the Yuba River have also been designated as critical habitat for Central Valley spring-run Chinook salmon.

There is the potential for temporary disturbance of habitat for special status fish species that occur in the Yuba River, Bear River, Honcut Creek, and Wyandotte Creek because both the existing and proposed transmission lines span these waterways. However, project construction activities would not occur within 50 feet of existing banks. Through the implementation of best management practices (BMPs), which would be included as part of the applicant's Stormwater Pollution Prevention Plan (SWPPP; APM HYDRO-1), and the implementation of APM BIO-2, APM BIO-3, APM BIO-4, and MM BIO-2, the potential impact on these special status fish species would be less than significant.

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is listed as threatened under CESA and protected under the Migratory Bird Treaty Act (MBTA). No Swainson's hawk were observed directly along the project route but were observed adjacent (ICF Jones & Stokes 2009a). Suitable nesting habitat was observed along the project route near Bear River, Upper and Lower Honcut Creek, Yankee Slough, and Ping Slough. One active Swainson's hawk nest was observed 0.5 miles adjacent to the project route. Other large-stick raptor nests were also observed within 0.5 miles of the project route during the 2005, 2006, and 2010 surveys

that could serve as Swainson's hawk nests (Appendix B-5; ICF Jones & Stokes 2009a). The CNDDDB (2010) reports 112 records of occurrences within 10 miles of the project route.

Construction activities such as tree and shrub removal and trimming, modification to or removal of existing towers, excavation and grading, and the use of helicopters within or directly adjacent to the project route could result in direct impacts to the nesting of this species. These activities have the potential to cause nesting birds to flush from their nests, possibly resulting in loss of eggs and fledglings. However, through the implementation of APM BIO-22, APM BIO-23, and APM BIO-24 the potential impacts to the Swainson's hawk would be less than significant.

Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) is listed as Endangered under CESA and is a fully protected species under California Fish and Game (CFG) Code Section 3511 and protected under the MBTA and Bald and Golden Eagle Protection Act. Bald eagles are commonly associated with large bodies of water and have been documented to nest approximately eight miles to the north of the project route at Lake Oroville. However, due to the lack of documented occurrences and lack of suitable nesting habitat along the project route, impacts to bald eagles would be less than significant.

White-tailed Kite

The white-tailed kite (*Elanus leucurus*) is a Fully Protected Species under CFG Code Section 3511 and is protected under the MBTA. The riparian areas (approximately 30.5 acres) present along the project route contain suitable nesting habitat, and there is foraging habitat present in the form of annual grasslands and agricultural croplands. Individuals were observed foraging along the project route during wildlife surveys conducted in 2005 through 2009 (ICF Jones & Stokes 2009a), and CNDDDB (2010) reports one record of white-tailed kite occurrence approximately 0.5 mile west of the project route. Construction activities such as tree and shrub removal and trimming, modification to or removal of existing towers, excavation and grading, and the use of helicopters within or directly adjacent to the project route could result in direct impacts to the nesting of this species. These activities have the potential to cause nesting birds to flush from their nests, possibly resulting in loss of eggs and fledglings. However, with the implementation of APM BIO-22, APM BIO-23, and APM BIO-24, impacts on the white-tailed kite would be less than significant.

Northern Harrier

The Northern harrier (*Circus cyaneus*) is designated by DFG as a California Species of Special Concern and is protected under the MBTA. The project area contains suitable nesting and foraging habitat for the Northern harrier in the form of wetlands, grasslands, and agricultural croplands. Individuals were not observed along the project route but were observed foraging in adjacent fields during focused wildlife studies (ICF Jones & Stokes 2009a). Additionally, CNDDDB (2010) reports five records of Northern harrier occurrences within 10 miles of the project route. Construction activities such as tree and shrub removal and trimming, modification to or removal of existing towers, excavation and grading, and the use of helicopters within or directly adjacent to the project route could result in direct impacts to the nesting of this species. These activities have the potential to cause nesting birds to flush from their nests, possibly resulting in loss of eggs and fledglings. With the implementation of APM BIO-22, APM BIO-23, and APM BIO-24, impacts on the Northern harrier would be less than significant.

Western Burrowing Owl

The western burrowing owl (*Athene cunicularia hypugea*) is designated by DFG as a California Species of Special Concern and is protected under the MBTA. The preferred habitat of the western burrowing owl is open, dry, and short grassland habitats. This species is frequently found in association with burrowing

mammals that may provide burrows for nesting. Common suitable nesting habitat includes roadside embankments, levees, and along riparian corridors. Suitable habitat to support western burrowing owl exists in several portions of the project route. The species was observed in the northern portion (near Tower 61) of the project route during 2005, and there were signs of burrowing owls observed in the same location during the 2006 survey (ICF Jones & Stokes 2009a). Additionally, CNDDDB (2010) reports four observations of western burrowing owl within 10 miles of the project route, with the closest occurrence located approximately 5 miles to the west, near Thermalito Afterbay.

Construction activities (e.g., staging, grading, and excavation) associated with the project could result in temporary and permanent impacts on burrowing owl nesting and foraging habitat. If burrowing owls are using burrows within 250 feet of the construction right-of-way, grading and excavation activities could result in removal of an occupied breeding or wintering burrow site and loss of adults, young, or eggs. This impact would be significant because construction could have an adverse effect on this species and violate the MBTA and CFG Code Section 3503.5. Construction night lighting could also significantly affect the behavior of this crepuscular bird species, as changes in lighting may affect foraging times, prey availability, and site movements (Longcore & Rich 2001). Implementation of APM BIO-20, APM BIO-21, and MM BIO-2 would reduce impacts to less than significant levels.

Tri-Colored Blackbird

The tri-colored blackbird (*Agelaius tricolor*) is designated by DFG as a California Species of Special Concern and is protected under the MBTA. The tri-colored blackbird is a colonial nester that requires the presence of accessible water; a suitable nesting substrate; and open-range foraging habitat of natural grassland, woodland, or agricultural cropland. The project area contains both suitable nesting and foraging habitat, and individuals were observed during the habitat survey in 2006. CNDDDB (2010) also reports 20 observations of tri-colored blackbird within 10 miles of the project route, though many of the observations are historical recordings of nesting sites that no longer support suitable nesting habitat due to the development of the land for agricultural and residential use.

There is the potential for tri-colored blackbird nesting habitat to be disturbed by increased traffic, human activity, and noise associated with project construction activities; however, there would be no removal of suitable nesting habitat for this species. Disturbance could be both temporary, as suitable nesting habitat is abundant along the project route and adjacent areas, or permanent, if large nesting colonies in the area are abandoned due to construction disturbances (ICF Jones & Stokes 2009a). This potential impact would likely not result in a substantial reduction of the tri-colored blackbird in the region. However, to minimize disturbance impacts to any tri-colored blackbird colonies, the timing of certain construction activities during the non-breeding season (APM BIO-22) and the use of buffers as noted in APM BIO-23 would be implemented to reduce impacts to less than significant levels.

California Black Rail

California black rail (*Laterallus jamaicensis coturniculus*) is listed as threatened under CESA and is a Fully Protected Species under CFG Code Section 3511. The freshwater marsh habitats present along the project route contain suitable forage and nesting habitat. The CNDDDB (2010) also reports numerous records of California black rail within 5 miles of the project route. Construction activities such as tree and shrub removal and trimming, modification to or removal of existing towers, excavation and grading, and the use of helicopters within or directly adjacent to the project route could result in direct impacts to the nesting of this species. These activities have the potential to cause nesting birds to flush from their nests, possibly resulting in loss of eggs and fledglings. However, through the implementation of APM BIO-22, APM BIO-23, and APM BIO-24, impacts on the California black rail would be less than significant.

Greater Sandhill Crane

Greater sandhill crane (*Grus Canadensis tabida*) is listed as threatened under CESA and is a Fully Protected Species under CFG Code Section 3511. While the project area is not within the breeding range of the greater sandhill crane, it is within its wintering range and contains suitable wintering habitat, grasslands, wetlands, and agricultural croplands. The Greater sandhill crane was not observed along the project route during the field surveys and the likelihood of occurrence is low (ICF Jones & Stokes 2009a). The impact on this species would be less than significant.

Western Yellow-Billed Cuckoo

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a candidate species for listing under the ESA, but is listed as endangered under the CESA. The project area contains potential suitable nesting habitat for this species in the riparian forest along the Bear River, Yuba River, and Honcut Creek; however, this habitat is considered low in quality (ICF Jones & Stokes 2009a). Therefore, the likelihood of occurrence is low, and impacts on the Western yellow-billed cuckoo would be less than significant.

Bank Swallow

The bank swallow (*Riparia riparia*) is listed as Threatened under CESA. Habitat for this species includes bluffs or banks with soft sand, sandy loam, or clay soil, often overlooking water for its nesting habitat. No bank swallows or bank swallow nests were observed during the 2005 and 2009 biological surveys. However, there is potential suitable nesting habitat at river crossings along the project route (ICF Jones & Stokes 2009a). Furthermore, CNDDDB (2010) reports occurrences of nesting bank swallows along the Feather River to the west of the project route.

Most impacts to the bank swallow from the project would be minimized by avoidance of potential nesting habitat by work areas and the spanning of these areas by the transmission line. However, construction night lighting could significantly affect the behavior of this bird species. The bank swallow can be active at night and changes in lighting may affect foraging and site movements (Longcore & Rich 2001). Artificial lighting may also attract night migrating birds to tall, lighted structures where they can become disoriented (Longcore & Rich 2004). Within the sphere of lights, birds may collide with each other or a structure, become exhausted, or may be taken by predators such as owls (Longcore & Rich 2004). Implementation of APM BIO-20, APM BIO-21, and MM BIO-2 would reduce impacts to less than significant levels.

Golden Eagle

The golden eagle (*Aquila chrysaetos*) is designated as a Fully Protected Species under CFG Code Section 3511 and protected under the MBTA and Bald and Golden Eagle Protection Act. The project area does not contain any suitable golden eagle nesting habitat, although the agricultural fields and grasslands do provide suitable foraging habitat (ICF Jones & Stokes 2009a). Due to the lack of documented occurrences and lack of suitable nesting habitat along the project route, impacts to golden eagles would be less than significant.

Least Bittern

The least bittern (*Lxobrychus exilis*) is designated by DFG as a California Species of Special Concern and is protected under the MBTA. The CNDDDB (2010) did not identify any occurrences within 10 miles of the project route; therefore, impacts to this species would be less than significant.

White-faced Ibis

The white-faced ibis (*Plegadis chihi*) is designated by DFG as a California Species of Special Concern and is protected under the MBTA. Although adults have been observed in the region, the CNDDDB (2010) did not identify any rookery occurrences within 10 miles of the project route; therefore, impacts to this species would be less than significant.

Long-Eared Owl

The long-eared owl (*Asio otus*) is designated by DFG as a California Species of Special Concern and is protected under the MBTA. The CNDDDB (2010) did not identify any occurrences within 10 miles of the project route; therefore, the impacts to this species would be less than significant.

Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is designated by DFG as a California Species of Special Concern and is protected under the MBTA. The CNDDDB (2010) did not identify any occurrences within 10 miles of the project route; therefore, the impacts to this species would be less than significant.

Yellow Warbler

The yellow warbler (*Dendroica petechia*) is designated by DFG as a California Species of Special Concern and is protected under the MBTA. The CNDDDB (2010) did not identify any occurrences within 10 miles of the project route; therefore, the impacts to this species would be less than significant.

Grasshopper Sparrow

The grasshopper sparrow (*Ammodramus savannarum*) is designated by DFG as a California Species of Special Concern and is protected under the MBTA. The CNDDDB (2010) did not identify any occurrences within 10 miles of the project route; therefore, the impacts to this species would be less than significant.

Bats

The Pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*), and western mastiff bat (*Eumops perotis californicus*) are all designated by DFG as California Species of Special Concern, and all have the potential to occur along the project route. All three bats may utilize bridges and buildings for day roosts and maternity roosts. Additionally, the Pallid bat and western red bat would also use tree cavities within close proximity to riparian corridors as roost sites. Though suitable roost sites are available along the project route in the form of bridges, railroad crossings, railroad trestles, and trees, the project is not expected to directly affect any of these potential roost sites. The potential noise and vibration disturbance associated with project construction would be temporary and less than the level of existing disturbances associated with highway overpass structures, railroad corridor structures, or residential buildings that provide potential roosting habitat. This impact would be expected to not result in substantial impacts on bat species.

The use of construction night lighting within the project would be expected to affect the behavior of special status bat species both through attraction and avoidance. Artificial lighting may attract prey, such as moths, for species of bats that feed on insects while in flight, such as the western red bat (TPW 2010). Conversely, larger, slower-flying species of bats such as the western mastiff bat may avoid artificially lighted areas due to increased risk of predation by owls (Longcore & Rich 2001). The western mastiff bat is the largest of American bat species and relative to the western red bat, is a slow-flying bat species and would be expected to avoid heavily lit areas (Best 1996). The pallid bat feeds by gleaning sedentary prey, does not feed while in flight, and would be expected to not be attracted to lighted areas to forage

(Hermanson 1983). These impacts on bat species from construction night lighting would be short-term but significant, and MM BIO-2 is required to reduce impacts to less than significant levels.

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, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?

LESS THAN SIGNIFICANT WITH MITIGATION. The project contains 30.49 acres of riparian habitats comprised of both Great Valley willow riparian scrub and Great Valley mixed riparian forest (ICF Jones & Stokes 2009a) (Appendix B-1). Great Valley willow riparian scrub encompasses 22.44 acres within the project area and is associated with agricultural canals. Great Valley mixed riparian forest occurs along the project route, primarily along Honcut Creek and various intermittent streams. This mixed riparian community encompasses 8.05 acres and consists of a well-developed overstory of mature trees, shrub layer, and herbaceous understory.

The upland and riparian vegetation types along the project route are considered common in both the area and the surrounding region (ICF Jones & Stokes 2009a). Where riparian areas would be crossed, new towers would be set back from riparian areas and stream crossings and power lines would be spanned over such crossings. Staging areas would be set back at least 50 feet from streams, creeks, or other water bodies to avoid impacts to riparian habitat. Where portions of the existing access road may be impassible for larger/heavier construction vehicles, portable bridges (that would span top of bank to top of bank) are proposed in areas without expansive riparian vegetation. In addition, the majority of vehicular traffic and heavy equipment use would be scheduled for the dry/low flow season, except where indicated in Appendix B-2. If bridging is not possible, construction would utilize sky crane helicopters to transport materials to job sites, and riparian areas would be avoided. A SWPPP, incorporating BMPs, would also be prepared as part of the general construction permit that would include erosion and sediment control measures (APM HYDRO-1).

Spanning streams with portable plates and/or bridges would still involve the temporary compaction and crushing of vegetation and soil along the banks and within the riparian buffer zone. This short-term impact would be significant, but MM BIO-3 would reduce impacts to less than significant levels.

MM BIO-3: Riparian Habitat Impact Minimization Measures. The applicant will implement measures to insure the reduction of construction impacts on riparian habitats. No riparian trees or shrubs will be removed during construction outside of the existing ROW in PG&E maintained areas unless required by CPUC General Order 95 and applicable safety codes. Herbaceous riparian vegetation will be restored to pre-construction conditions within 30 days of the end of construction. The applicant will contact the DFG prior to construction to determine whether a 1600 Streambed Alteration Agreement is necessary for the project.

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?

LESS THAN SIGNIFICANT. Waters of the United States, including wetlands, were delineated in 2007, 2008, 2009, and 2010 (Appendix B-4). The extent of non-wetland waters was identified by ICF Jones & Stokes and North State Resources biologists using the ordinary high-water mark following guidance issued by the U.S. Army Corps of Engineers (USACE 2005). Although a majority of the wetlands may be considered jurisdictional by the USACE, some isolated wetlands may not be considered jurisdictional under Section 404 of the Clean Water Act (Environmental Laboratory 1987). For the purposes of this

assessment and determining effects on potential waters of the U.S., all waters and wetlands along the project route were assumed to be jurisdictional.

There were 184.28 acres of potential waters of the U.S., including wetlands, identified within 50 feet of all proposed work areas (ICF International 2010a). A total of nine wetland habitat types were identified, including northern hardpan vernal pool (5.53 acres), vernal swale (0.17 acre), seasonal wetland (29.25 acres), Valley freshwater marsh (20.83 acres), open water (2.47 acres located within 50 feet of proposed work areas), intermittent stream (0.55 acre), vegetated ditch (17.62 acres), irrigation canal (0.04 acre), and agricultural wetlands (107.82 acres).

A total of 0.054 acres of permanent fill would occur where 56 new structure footings are proposed for placement in wetlands or other waters. These placements include seven tower footings in seasonal wetlands, two footings in vernal pools, one in a vegetated ditch, 41 in rice fields, and five towers in freshwater marsh. The maximum impact acreage per tower footing is estimated by the applicant to be a 7.5 feet diameter circle of 0.001 acres per permanent tower footing. Permanent impacts would be significant and compensation plans to mitigate permanent impacts to less than significant are detailed in APM BIO-7.

Direct temporary impacts totaling 26.84 acres would occur from ground disturbance near waters and wetlands located within designated work area boundaries, temporary project roadways, or where existing tower footings already located in wetlands or other waters are to be removed. Indirect temporary impacts resulting from erosion runoff, dust generation, or the propagation of invasive species could occur to wetlands or other waters located outside work area boundaries or roads, but within 50 feet of any project features or work areas. The total acreage of temporary indirect impacts to wetlands and other waters was not calculated. However, APM BIO-5 and APM BIO-6 would minimize direct temporary impacts, and all indirect temporary impacts would be avoidable with the implementation of APM BIO-2 through APM BIO-4 and APM BIO-12. In addition, a SWPPP would be implemented in order to prevent construction-related erosion and sediments from entering nearby waterways (APM HYDRO-1). With implementation of the APMs, impacts on wetlands or other waters would be less than significant.

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?

LESS THAN SIGNIFICANT. Project construction activities could temporarily disturb habitat for special status fish species that occur in the Yuba River, Bear River, Honcut Creek, and Wyandotte Creek. Both the existing and proposed transmission lines span the aforementioned waterways. Special status fish species identified in these waterways include green sturgeon, Central Valley steelhead, spring-run Chinook salmon, and fall-/late-fall-run Chinook salmon. In addition, critical habitat has been identified along the project route for both Central Valley steelhead and Central Valley spring-run Chinook salmon, as well as proposed critical habitat for green sturgeon. CFG Code Sections 1600–1616 require a Streambed Alteration Agreement Permit if activities were to interfere, in any way, with the flow of these waterways. However, project construction activities would not occur within 50 feet of the existing banks of these rivers, streams, or creeks. Implementation of APM BIO-2, APM BIO-3, and APM BIO-4 would reduce impacts on special status species to less than significant levels.

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

LESS THAN SIGNIFICANT WITH MITIGATION. The project spans Butte, Sutter, and Yuba counties. All three counties, as well as the City of Marysville have policies that apply to biological resources along the

project route, which aim to protect lands of unique value to plants, fisheries, waterfowl, and other forms of animal life. These policies include requiring no-net loss of wetlands and riparian habitats; retention of existing designated wildlife areas; protection from incompatible land uses; protection of waterfowl habitat areas; identification of areas containing habitat suitable for threatened, endangered, or special status species; connection of wildlife preserves and parklands to wildlife/open space corridors conservation; identification of land use within floodplains; and assurance that floodplains and waterways will not be polluted (ICF Jones & Stokes 2009a).

Goal 7-OSCG of the Yuba County General Plan is to conserve Valley oaks and encourage the protection and regeneration of oak woodlands in foothill areas (Yuba County 1996). Relevant policies that apply to the project are exemplified in Policy 116-OSCP through Policy 118-OSCP under Goal 7-OSCG of the Yuba County General Plan. These policies provide guidelines for the identification and mapping of all Valley oaks, placement of fill near trees, soil compaction, type and depth of nearby excavation, root removal, required protective perimeter and fencing, tree removal, maintenance, and the assessment of snags on properties proposed for a development project. Butte and Sutter Counties do not have any policies that address any specific tree species.

Valley oaks are known to occur in Yuba County, and can occur at elevations up to approximately 5,600 feet (Yuba County Resource Conservation District 2009). A preconstruction survey would be needed to identify any Valley oaks located along the project route. APM BIO-1 would be implemented to ensure that impacts on trees protected by county ordinances would be less than significant. Additionally, MM BIO-4 would ensure that impacts on Valley oak, specifically, would be less than significant should the presence of Valley oak along the project route be identified during the preconstruction tree survey.

MM BIO-4: Adherence to Policy 116-OSCP Through Policy 118-OSCP Under Goal 7-OSCG of the Yuba County General Plan, Provisions for Valley Oak. Yuba County policies concerning Valley oak, if these species would be impacted by project activities, shall be followed. Specific mitigation measures should be designated and implemented by the applicant regarding Valley oak to adhere to the following Yuba County policies:

- **Policy 116-OSCP:** Project proponent shall identify and map the location of all Valley oaks within the project area. Identification need not include individual trees where groves of Valley oaks are present, and need not include trees less than 6 inches in diameter at breast height.
- **Policy 117-OSCP:** The following guidelines shall be implemented by the project proponent:
 - During any construction, fill should not be placed within an area which is 1.5 times the distance from the trunk to the dripline (the perimeter of the crown) of Valley oaks and no closer than 10 feet from the trunk. The dripline of the tree should be fenced during grading and construction.
 - Soil compaction, which could damage root systems and interfere with vital gas and nutrient exchanges in the roots, should be prevented by not operating or storing heavy equipment within oak driplines.
 - Excavations around trees should be minimized. Depth of excavations should be the minimum required. Utility lines should be combined in single trenches whenever possible.
 - If roots need to be removed, they should be cut rather than torn and immediately covered with mulch or soil to prevent desiccation.

- Submit a tree protection plan to Yuba County along with grading and erosion control plans when Valley oaks are present [within construction work areas]. The tree protection plan should include a planting replacement program for all Valley oaks removed, including maintenance and monitoring program, and should also show how any snags present on the site would be retained where feasible when they do not pose a threat to public safety.
- **Policy 118-OSCP:** Based on the amount of existing Valley oak canopy area on the project site, the determined amount of canopy must be retained [unless required by CPUC General Order 95 and applicable safety codes].

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?

NO IMPACT. The project is not located within the boundaries of a current Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP). A HCP/NCCP is proposed for Butte County but has not been completed or implemented (Butte County Association of Governments 2008). According to the Butte County Association of Governments, this plan would not go into effect until 2012 at the earliest. A joint HCP/NCCP is proposed for Sutter and Yuba Counties (Sutter County Public Works 2009). According to the Sutter County Public Works, Community Services-Environmental Health Department, this plan would not be finalized and/or implemented until 2010 or later (Sutter County Public Works 2009). Therefore, the project would result in no impact under this criterion.

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3.5 Cultural Resources

Table 3.5-1 Cultural Resources Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>

3.5.1 Setting

Historical Context

The Konkow Maidu Native Americans occupied the foothills east of Chico and Oroville, as well as a portion of the Sacramento Valley (Riddell 1978). Around the turn of the twentieth century several small rancherias were created, establishing a legal land base for the Konkow. The Konkow remain active in cultural preservation in and around the Palermo/Feather River area (Riddell 1978).

The Valley Nisenan, or Southern Maidu Native Americans, occupied lands located in the project area. The western boundary of Nisenan territory was the western bank of the Sacramento River. The eastern boundary was the crest of the Sierra Nevada (Wilson and Towne 1978:387).

During the first half of the nineteenth century, an influx of activity from natural resource exploitation and the establishment of early settlements in Sacramento and Yuba and Sutter Counties expanded the Central Valley's population. In the mid nineteenth century, a boom in mining activities brought in great numbers of American and Chinese migrants and, later, the construction of increasingly large-scale water conveyance and storage systems for hydraulic mining operations. Railroads arrived in the region by 1858. Spurred in part by railroad shipping, agriculture became an increasingly important in the region (Rawls and Bean 2003).

Mining and milling operations in the Sierra Nevada developed small hydroelectric generators for production of light and for powering equipment in the late nineteenth century. In Plumas and Butte counties, the Great Western Power Company (GWPC) constructed one of the largest of the early hydroelectric systems that spread across the Sierra Nevada Mountains

Pacific Gas and Electric Company (PG&E) was incorporated in 1905. The Palermo–East Nicolaus Transmission Line and supporting alignment of steel lattice towers originally served as a segment of GWPC's Las Plumas Transmission Line, constructed in 1908. The tower alignment of PG&E's single-circuit 115-kV Palermo–Rio Oso No. 2 Transmission Line originally served as a segment of GWPC's 186-mile Caribou Transmission Line, constructed in the late summer and fall of 1919. GWPC built the Caribou Line as part of its Caribou Hydroelectricity Project.

Between April 1941 and May 1942 the current East Nicolaus Substation was constructed at the southeast corner of Nicolaus Avenue and State Route 70 (El Centro Boulevard). In 1959 PG&E began acquiring property and rights-of-way for the Palermo Substation and transmission lines northwest of Palermo, Butte County. The Palermo Substation and substation building were constructed ca. 1960.

Paleontological Setting

Section 3.6, *Geology and Soils*, discusses the geological setting of the region, which includes paleontological resources and the rock formations/lithologic units underlying portions of the project that would contain paleontological resources.

Regulatory Setting

Federal

Section 106 of the National Historic Preservation Act

Portions of the project would cross or result in fill being placed in wetland features, requiring the applicant to apply to the U.S. Army Corps of Engineers (USACE) for a permit under Section 404 of the Clean Water Act. The requirement of a permit from a federal agency qualifies the applicant's project as a federal undertaking, obligating the USACE to comply with Section 106 of the National Historic Preservation Act (Section 106).

State of California

California Environmental Quality Act (CEQA)

CEQA requires that alternative plans or mitigation measures be considered if a project would result in significant impacts on important cultural resources. However, only impacts on significant cultural resources need to be addressed.

Methods and Findings

Native American Consultation

ICF Jones & Stokes sent letters to 22 local Native American representatives identified by the Native American Heritage Commission (NAHC) as potentially having information or concerns regarding the project. The NAHC indicated that the Sacred Lands File contained no record of cultural resources in the project area.

Two of the replies came from Ren Reynolds, Environmental Protection Agency Planner and Site Monitor for the Enterprise Rancheria Estom Yumeka Maidu Tribe. Mr. Reynolds requested that work be ceased if any cultural materials were uncovered during ground-disturbing activities and that examination of the site and materials be conducted by a qualified archaeologist and a tribal site monitor. He also requested that if human remains are unearthed, the human remains provisions of the California Health and Safety Code shall be enforced and adhered to.

Correspondence with Historical Societies and Local Governments

Through online searches, ICF Jones & Stokes identified several historical societies and local government planning divisions with which to initiate consultation. ICF Jones & Stokes mailed letters describing the proposed undertaking and requested information about local-area cultural resources to each of the organizations. To date, no response has been received by the historical societies or local governments.

Records Search and Literature Review

A records search conducted on behalf of the applicant at the Northeast Information Center of the California Historical Resources Information System (CHRIS) and at the North Central Information Center of CHRIS indicated that a total of 39 previous cultural resource studies have been conducted in the project area. The records search indicated that five previously recorded cultural resources are located in the project area.

Pedestrian Survey

ICF Jones & Stokes archaeologists and historians performed a pedestrian survey of the project area and identified eight cultural resources: the Palermo–East Nicolaus Transmission Line, Palermo–Rio Oso No. 2 Transmission Line, Palermo irrigation ditches, a segment of the abandoned Southern Pacific Railroad, a segment of the Western Pacific Railroad, Browns Valley Grade Levee, Rio Oso Brick Company Kiln, and remnants of a historic ranch.

Applicant Proposed Measures

The applicant has incorporated the following applicant proposed measures (APMs) into the project to minimize or avoid impacts on cultural resources. See Chapter 1.0 for a complete list of APMs that the applicant has incorporated into the project to avoid or minimize impacts on all resources.

APM CR-1: Stop work if previously unknown cultural resources are discovered

APM CR-2: Stop work if previously unknown paleontological resources are discovered

APM CR-3: Stop work if human remains are discovered

3.5.2 Environmental Impacts and Mitigation Measures

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

NO IMPACT. Construction vehicles would need to cross a segment of the Western Pacific Railroad (site number P-58-1372) that has been identified as eligible for listing in the National Register of Historic Places. This would occur at paved crossings that are in current use, such as at Kempton Road. The crossing would require no modification to the Western Pacific Railroad. The other cultural resources identified as potentially eligible for listing in the National Register of Historic Places (e.g., the Palermo–East Nicolaus and Palermo–Rio Oso No. 2 transmission lines) are not considered to be of historical significance under Section 106 of the National Historic Preservation Act or CEQA. Therefore, the project would result in no impact under this criterion.

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

LESS THAN SIGNIFICANT. Ground-disturbing activities associated with construction of the project, such as access road grading, preparation of staging areas, and the excavation of footings for tower removal and installation, have the potential to damage or destroy archaeological resources that were not evident during the cultural resources survey. Such damage or destruction of archaeological resources would constitute an adverse effect under Section 106 and a significant impact under CEQA. Implementation of APM CR-1 would reduce this impact to a less than significant level as work would be stopped if cultural resources are discovered during site preparation and construction activities while a qualified archeologist assesses the find.

c. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

LESS THAN SIGNIFICANT WITH MITIGATION. The proposed transmission towers and pole replacement locations over most of the project area are in underlying geological formations (Laguna, Riverbank, and Modesto) of high sensitivity for paleontological resources. Thus, ground disturbing activities such as construction of access roads, auguring for tower supports and pole replacement, and construction of staging areas have the potential to impact unknown paleontological resources.

Implementation of APM CR-2 would reduce potential impacts because construction personnel would receive paleontological resources awareness training. Additionally, APM CR-2 would reduce potential impacts as all work would stop if paleontological resources were discovered during construction.

The Palermo–East Nicolaus 115-kV Transmission Line Project area has both high and low sensitivity for paleontological resources that may be present on the surface or would be exposed during ground disturbing construction activities. Thus, ground disturbing activities throughout almost the entire project area have the potential to impact paleontological resources.

The following mitigation measure applies to project areas with high sensitivity for paleontological resources (Scott and Springer 2003; Wagner 1990, 1995). Areas with high paleontological sensitivity are the Quaternary Modesto, Quaternary Riverbank, and Tertiary Laguna Formations. With implementation of the following mitigation measure, impacts would be reduced to less than significant levels.

MM CR-1: Paleontological Resources Treatment Plan. Prior to construction, a Paleontological Resources Treatment Plan will be prepared that addresses the treatment of paleontological resources that may be discovered during construction. This plan, prepared by a qualified paleontologist, will include procedures for paleontological onsite monitoring, significance testing, and data recovery. Paleontological monitor(s) must be present during all ground disturbing activities where the underlying geology has high sensitivity for fossil resources unless the vertical disturbance will not impact the underlying geology or is located in a highly disturbed area as identified by a qualified paleontologist.

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

LESS THAN SIGNIFICANT. Ground-disturbing activities associated with construction of the project, such as access road grading, preparation of staging areas, and the excavation of footings for tower removal and installation, have the potential to damage or destroy human remains that were not evident during the cultural resources survey. Such damage or destruction of human remains would constitute an adverse effect under Section 106 and a significant impact under CEQA. Implementation of APM CR-3, which stops work if human remains are discovered, would reduce this impact to a less than significant level.

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3.6 Geology and Soils

Table 3.6-1 Geology and Soils Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.6.1 Setting

Structurally, the Central Valley Physiographic Province is a large, elongated, northwest-trending asymmetric structural trough that has been filled with an extremely thick sequence of sediments ranging in age from Jurassic to Holocene. This asymmetric geosyncline has a long, stable eastern shelf supported by the subsurface continuation of the granitic Sierran slope and a short western flank expressed by the upturned edges of the basin sediments (Hackel 1966). The project route has been mapped by a number of geologists at a regional scale (Helley and Harwood 1985; Jennings 1977; Saucedo and Wagner 1992; and Wagner et al. 1987). In addition, compilation maps prepared by Jennings (1977); Saucedo and Wagner (1992); and Wagner et al. (1987) reflect mapping work by previous authors. The project route would cross a number of Quaternary-age geologic units as indicated in Figure 3.6-1 and described in Table 3.6-2.

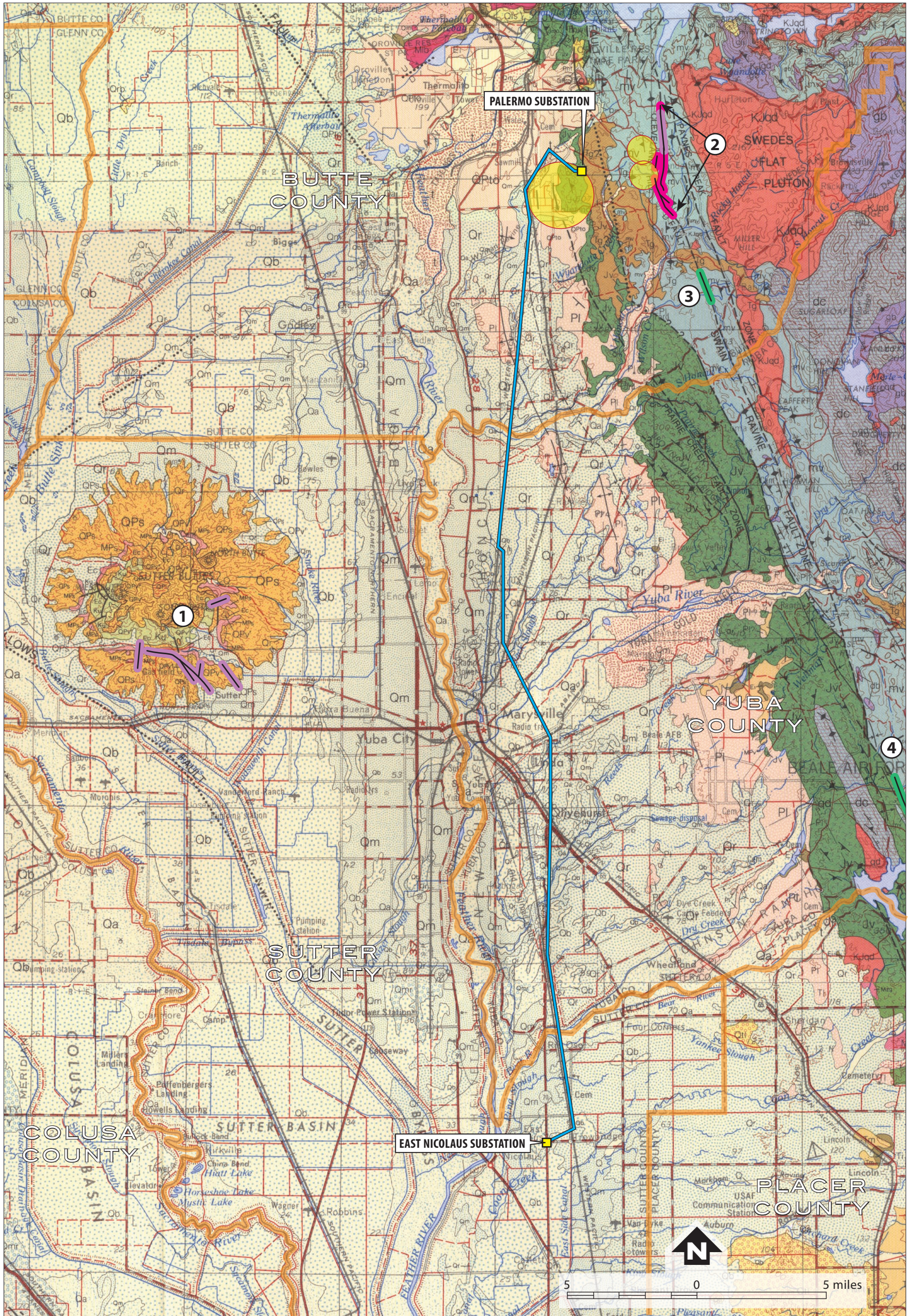
Table 3.6-2 Geologic Map Units Exposed Along the Project Route


Geologic Unit Map Symbol	Geologic Unit Name	Description
Qsc	Stream Channel Deposits	Deposits of open, active stream and river channels without permanent vegetation. These deposits are being transported under modern hydrologic conditions.
t	Tailings	Tailings deposits are derived from dredge gold and gravel mining operations and consist of well sorted, unconsolidated silt, sand, gravel, and cobble, with lesser amounts of clay.
Qa	Alluvium	Alluvium is mapped adjacent to active river or tributary channels and consists of Holocene age, high-energy fluvial deposits (i.e., sand and gravels) and overbank and fan deposits (i.e., sand, silt, and clay). These deposits are unconsolidated.
Qb	Basin Deposits	Helley and Harwood (1985) differentiate basin deposits from alluvium (Qa) on the basis of composition including only those deposits that are finer grained and frequently organic rich and suggest these deposits were distal deposits where energy conditions were much lower.
Qmu / Qml	Modesto Formation	A significant portion of the project route is mapped as being underlain by the Modesto Formation. The Modesto Formation is Upper Pleistocene in age and consists of unconsolidated to moderately cemented gravel, sand, silt, and clay. Dense clay has been encountered (typically in the upper five feet) in this formation (Kleinfelder 2008). The Modesto Formation commonly forms distinct alluvial terraces and fans and is divided into upper (Qmu) and lower (Qml) members.
Qru / Qrl	Riverbank Formation	Similar to the Modesto Formation, the Riverbank Formation is mapped under a significant portion of the project route. The Riverbank Formation generally consists of compact to semi-consolidated, dark brown to red gravel, sand, and silt with some clay. The Riverbank Formation has been dated between 130,000 and 450,000 years before present (BP).
Tla	Laguna Formation	The Laguna Formation is mapped at the northern end of the project route. This Pliocene-age formation is the oldest of the geologic units mapped at the surface along the project route. The Laguna Formation consists of moderately to strongly cemented, interbedded alluvial gravel, sand, and silt. These soils were deposited by the ancestral Feather, Yuba, Bear, and American Rivers (Shlemon 1972).
NA	Buried Stream Channel Deposits	In addition to the geologic units mapped by Helley and Harwood (1985), historical surveys, geologic, and soils maps of the project route show numerous stream channels crossing the project route that have since been buried and/or modified (Kleinfelder 2008).




Source: Kleinfelder 2008

Faulting and Seismicity

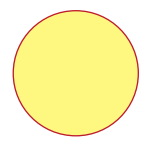

The project would be located in a seismically active area given the proximity and number of potential seismic sources. A regional fault and epicenter map showing the approximate location of the project relative to seismic sources and past earthquakes is provided also in Figure 3.6-1.



 Project location (transmission line and substation locations)

 Displacement during historic time
 Faults showing evidence of displacement during late Quaternary time
 Quaternary (undifferentiated) faults. Classification based on apparent offset of Plio-Pleistocene volcanic rocks

- ① Unnamed faults at Sutter Buttes, Quaternary (undifferentiated)
- ② Cleveland Hill fault, Historic (1975 – 1976)
- ③ Swain Ravine fault zone, Late Quaternary (active in last 100,000 years)
- ④ Spenceville fault zone, Late Quaternary (possibly Holocene; active between 9,000 – 130,000 y.b.p.)

 6.1m
Aug. 1, 1975
 5.0-5.4m
(approx. mag)
betw. 1932 - 1999

PALERMO-EAST NICOLAUS 115-KV TRANSMISSION LINE

Figure 3.6-1
Geologic Map of the Regional Area
 (see following page for legend)

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CENOZOIC

QUATERNARY

Holocene

- af Artificial fill
- t Dredge or mine tailings
- Q Alluvium
- Qa Natural levee and channel deposits
- Qb Basin deposits (alluvium)
- Qls Landslide deposits
- Ql Lake deposits
- Qf Fan deposits
- Qt Terrace deposits

Pleistocene

- Qg Glacial deposits
- Qm Modesto Formation (alluvium)
- Qr Riverbank Formation (alluvium)
- Qos Pleistocene nonmarine sedimentary rocks (fluvial and lacustrine gravel, sand, silt, and clay)
- Qrb Red Bluff Formation (coarse red gravel, sand, and silt)
- QPs, QPI Volcanic sediments of Sutter Buttes (volcaniclastic sediments and lahars) QPI - Volcanic lake beds

Pliocene

- QPt, Pnt Tuffs of Oroville (volcaniclastic sediments, and tuff) Pnt-Nomlaki Tuff
- Pt, Pnt Tuscan Formation (Lahars, volcaniclastic sediments, and tuff) Pnt-Nomlaki Tuff
- Pl Laguna Formation (alluvial gravel, sand, and silt)

Miocene

- Ps Pliocene nonmarine sedimentary rocks (fluvial and lacustrine shale, sandstone, and ash)
- MPC Miocene-Pliocene channel deposits (fluvial conglomerates and sandstone)
- MPS Sutter Formation (volcaniclastic sediments; nonmarine)

Oligocene

- Ec Capay Formation (sandstone and shale; marine)
- Ei Ione Formation (quartzose sandstone, claystone, and conglomerate; mostly nonmarine)
- Tg "Auriferous" Gravels

Eocene

- Ku Upper Cretaceous rocks (shale and sandstone; marine)
- Kc Chico Formation (sandstone, conglomerate, and siltstone; marine)

TERTIARY

CRETACEOUS

PALERMO-EAST NICOLAUS 115-KV TRANSMISSION LINE

Figure 3.6-1

Map Legend for the Geologic Map of the Regional Area

002803.CP10.03.a2 (2009 CORP CD Archives - Vol 4) 06/24/2010

Reference: 1:250,000 Geological Maps of the Chico (1992) and Sacramento (1987) Quadrangles, California Dept. of Conservation - Division of Mines and Geology

- Qv Pleistocene volcanic rocks (b - basalt; bp - scoria and basalt)
- QPv^a Volcanic rocks of Sutter Buttes (QPv^a - andesite; bp - QPv^f - rhyolite)
- Pi Pliocene intrusive rocks (a - andesite; b - basalt)
- Pv Pliocene volcanic rocks (a - andesite; b - basalt)
- Cinder cone or volcano; major Pelean domes at Sutter Buttes
- MPi Miocene-Pliocene intrusive rocks (a - andesite; b - basalt)
- MPv Miocene-Pliocene volcanic rocks (b - basalt; a - andesite; af - andesite flows; ap - andesite pyroclastic rocks; t - dacitic tuff-breccia)
- Mib Lovejoy Basalt
- ΦMv Oligocene-Miocene volcanic rocks (r - rhyolite tuff and sedimentary rocks)

MESOZOIC PLUTONIC ROCKS

- | | | | | |
|-----------------------|---|---------|--------|------------------|
| KJgr | KJqd | KJdi | KJgb | |
| Granite, granodiorite | Quartz diorite, tonalite, trondhemite, quartz monzonite | Diorite | Gabbro | |
| Jgr | Jqd | Jdi | Jgb | Jum |
| Granite, granodiorite | Quartz diorite, trondhemite | Diorite | Gabbro | Ultramafic rocks |

MESOZOIC

CRETACEOUS

JURASSIC

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Active faults closest to the project route are the Dunnigan Hills Fault about 19 miles to the west and the Cleveland Hill Fault¹ (western splay of the Foothills Fault System) as close as 2.5 miles east of the project route (Hart and Bryant 1997; International Conference of Building Officials 1997); Jennings 1994). These faults are in Alquist-Priolo Earthquake Fault Zones (Hart and Bryant 1997). According to the California Geological Survey (CGS), the only historic earthquake to have generated surface fault rupture in the Sacramento Valley region occurred on the Cleveland Hill fault (CGS 2007). In 1975, ground rupture was observed and mapped at the ground surface following a magnitude (M) 5.7 Oroville earthquake, primarily along the northern extent of this fault. This rupture was studied by the CGS and placed within an Alquist-Priolo Earthquake Fault Zone; it is still considered capable of ground-surface rupture.

The closest potentially active fault to the project route is the Willows Fault Zone, located less than two miles from the southern end of the project route. This fault zone is mapped as a pre-Quaternary fault zone. However, according to Kleinfelder (2008), the Willows Fault Zone is defined as potentially capable of generating infrequent and moderate-magnitude earthquakes along its northern extent, north of the Sutter Buttes, and is mapped on the basis of offset, deep bedrock strata (i.e., 1,500 feet), and associated groundwater elevation anomalies in that region. The Willows Fault was originally mapped by Harwood and Helley (1987) and subsequently by others as a steeply dipping reverse fault, and is considered to be active. Kleinfelder (2001) indicated that a M6.6–6.7 was appropriate for the Willows Fault, although there is some speculation as to whether or not the fault is currently active.

Seismic hazards associated with seismically active areas include earthquake fault ground rupture and ground shaking (primary hazards), liquefaction, and earthquake-induced slope failure (secondary hazards). The project route would be located within an area influenced by several major faults to the east and west.

Fault Rupture. No known active fault or potentially active fault crosses the project route, and there is no evidence of recent (Holocene) faulting within the project route vicinity (Kleinfelder 2008). Furthermore, review of aerial photographs does not indicate the presence of lineations or other features that would suggest the presence of recent faulting on or trending towards the project route (Kleinfelder 2008).

Ground Motion. The project route would be subject to seismic hazards because of its proximity to active faults, fault systems, and fault complexes. Some of the officially recognized active faults (e.g., recognized by the State of California or Uniform Building Code [UBC]) are located within a 20-mile radius of the project area. The project route would be located in a region of California characterized by a low ground-shaking hazard. Based on a probabilistic seismic hazard map that depicts the peak horizontal ground acceleration values exceeded at a 10 percent probability in 50 years (Cao et al. 2003, California Geological Survey 2006), the probabilistic peak horizontal ground acceleration values in the project area range from 0.1 to 0.2g, where one “g” equals the force of gravity, indicating that the ground-shaking hazard in the project area is low to moderate. Farther to the east and west, the ground-shaking hazard increases more, coinciding with the increase in abundance of associated faults and fault complexes (Cao et al. 2003, CGS 2006).

¹ This fault was responsible for the 1975 M5.7 Oroville earthquake, an event that produced surface displacement along about 2.2 miles of the fault. Ground motions corresponding to Modified Mercalli Intensity VIII were experienced at Gridley and Oroville. Significant structural damage occurred to unreinforced masonry buildings in Oroville. Geologic studies indicate that the total length of the Cleveland Hills fault is probably 11 to 15 miles. The maximum credible earthquake on this fault is probably about M6.5–6.7. An event of this magnitude would cause substantially more damage than the 1975 event (Butte County 2005).

Soils

The soils along the project route have been mapped by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) and are described in the Soil Survey of the Butte Area; Parts of Butte and Plumas Counties (Burkett and Conlin 2006); the Soil Survey of Sutter County (Lytle 1988); and the Soil Survey of Yuba County (Lytle 1998). Table 3.6-3 describes the general soil map units occurring from north to south along the project route (Burkett and Conlin 2006; Lytle 1998; Lytle 1988).

Table 3.6-3 Soil Map Units along the Project Route

General Soil Map Unit	Soil Unit Description
Dunstone-Loafercreek-Argonaut Taxadjunct	Shallow and moderately deep, nearly level to moderately steep, well-drained soils that formed in residuum and colluvium; on foothills.
Thompsonflat-Oroville-Vistarobles	Very deep, moderately deep, and shallow, nearly level to moderately steep, moderately well-drained and poorly drained soils that formed in alluvium; on intermediate and high fan terraces. Limited by slow permeability and a hazard of ponding in some areas.
Eastbiggs-Duric Xerarents-Kimball	Moderately deep, shallow, and very deep, nearly level, somewhat poorly drained and well-drained soils that formed in alluvium; on low terraces. Limited by slow permeability and a hazard of ponding in some areas.
Conejo-Kilaga	Very deep or deep, well-drained alluvial soils; on stream terraces. Few limitations except for slow permeability and a hazard of flooding in some areas.
San Joaquin	Moderately well-drained alluvial soils that are moderately deep to a hardpan and have a dense clay subsoil; on low fan terraces. Limited by very slow permeability.
Columbia-Holillipah-Shanghai	Very deep, somewhat poorly drained or somewhat excessively drained, alluvial soils; on floodplains. Limited by a hazard of flooding in some areas.
Shanghai-Nueva-Columbia	Very deep, level to nearly level, somewhat poorly drained silt loam, loam, and fine sandy loam; on floodplains. Limited by a hazard of flooding and a high water table in some areas.
Conejo-Tisdale	Moderately deep to very deep, level to nearly level, well drained loam and clay loam; on terraces. Limited by a restricted soil depth.
San Joaquin-Cometa	Moderately deep and very deep, level to nearly level, well drained sandy loam and loam; on terraces. Limited by very low to moderate water capacity and very slow permeability.
Clear Lake-Capay	Deep and very deep, level to nearly level, poorly drained and moderately well drained clay and silty clay; in basins and on basin rims. Limited by slow permeability.

Sources: Burkett and Conlin 2006; Lytle 1998; Lytle 1988

Geologic Hazards

Liquefaction. Liquefaction occurs primarily in saturated, loose, fine-to-medium grained soils in areas where the groundwater table is within approximately 50 feet of the ground surface. Shaking causes the soils to lose strength and behave as a liquid. Geologic mapping by Helley and Harwood (1985) shows significant portions of the project route to be underlain by basin and Holocene-age alluvial deposits. These units generally consist of unconsolidated gravel, sand, silt, and clay. Depending on groundwater levels² and the intensity of a seismic event, these units have the potential to liquefy during a seismic event.

In Butte County, areas paralleling the Sacramento River that contain clean sand layers with low relative densities are estimated to have generally high liquefaction potential. Granular layers underlying most of the remaining Sacramento Valley area of Butte County have higher relative densities and thus have

² Groundwater is anticipated within the proposed depths of exploration for the portion of the route located within the valley sediments a few miles south of Palermo. Groundwater levels are expected to range from near the ground surface to depths of more than 20 feet below ground surface for this portion of the project route. Groundwater is not anticipated within the depths of exploration for the higher elevation sites near Palermo (Kleinfelder 2008).

moderate liquefaction potential. Clean layers of granular materials older than Holocene are of higher relative densities and are thus of low liquefaction potential. The project route would generally traverse areas of moderate liquefaction potential (Butte County 2005, Figure 16-4).

In Yuba and Sutter counties, areas with a high liquefaction potential are similar to those areas described for Butte County (Sutter County 1996; Yuba County 2008). Areas paralleling the Sacramento, Feather, and Bear Rivers that contain clean sand layers with low relative densities coinciding with a relatively high water table are estimated to have generally high liquefaction potential. Granular layers underlying certain areas in the Sacramento Valley have higher relative densities and thus have moderate liquefaction potential.

Landslides. Landslides, rock falls, and debris flows occur continuously on all slopes; some processes act very slowly, while others occur very suddenly, with potentially disastrous results. Based on an analysis of aerial photographs, no landslides were observed along the project route (Kleinfelder 2008), and no geomorphic features indicative of landsliding were observed (e.g., scarps, hummocky topography, etc.). However, the project route does cross several major rivers and/or drainages with embankments. The stability of major river levee embankments is the purview of the United States Army Corps of Engineers. The stability of other embankments and/or creek banks that could affect the proposed pole foundations would need to be assessed during preparation of the project geotechnical report(s).

Soil Erosion. Areas of differing erosion hazard potential for Butte County are delineated (Butte County 2005, Figure 16-5). The areas with the greatest erosion hazard potential generally occur in the foothills of Butte County, whereas the project route would generally traverse areas of moderate and slight erosion hazard potential. Moderate erosion hazard potential is defined as occurring on areas with slopes of 9 to 30 percent with soils of no profile development to weak profile development and slopes of 9 to 15 percent with moderate profile development. Slight erosion hazard potential is defined as occurring on areas with slopes of two to nine percent with permeability at least moderate with weak soil profile development (Butte County 2005).

Areas of differing erosion hazard potential for Yuba County are delineated (Yuba County 2008, Exhibit GS-2). The areas with the greatest erosion hazard potential generally occur in the foothills and mountain areas in the central and eastern part of the county, whereas the project route would traverse areas of slight erosion hazard potential. Slight erosion hazard potential is defined as erosion unlikely to occur under ordinary climatic conditions (Yuba County 2008).

For Sutter County, areas with a moderate or high erosion hazard potential are not common, with the exception of moderate to high erosion hazard potential in the Sutter Buttes. The majority of Sutter County exhibits areas of low erosion activity including the areas along the project route.

Collapsible Soils. Differential settlement (also called ground settlement and, in extreme cases, ground collapse) results as soil compacts and consolidates after ground shaking ceases. Differential settlement occurs when the layers that liquefy are not of uniform thickness, a common problem when the liquefaction occurs in artificial fills (ABAG 2001). Settlement can range from one percent to five percent, depending on the cohesiveness of the sediments (Tokimatsu and Seed 1984).

Expansive Soils. Shrink-swell or expansive soil behavior is a condition in which soil reacts to changes in moisture content by expanding or contracting. Soil expansiveness (or shrink-swell potential) is expected to range from none to high along the project route. The distribution of expansive soils within Butte County is delineated (Butte County 2005, Figure 16-8). Soils with no or low expansion potential occur along stream and river valleys and on steep mountain slopes. Soils of high expansion potential occur in

the level areas of the Sacramento Valley, including around the population centers of Chico, Oroville, Biggs, and Gridley. In general, the project route occurs in areas with highly expansive soils (Butte County 2005).

For Yuba County, the distribution of expansive soils is delineated (Yuba County 2008, Exhibit GS-3). Soils having high shrink-swell potential are more common on the western end of the county, where the project route would occur. Some soils with moderate shrink-swell potential are also located in valleys in the easternmost part of the county. In general, the project route would traverse areas with a low to high shrink-swell potential (Yuba County 2008).

The distribution of expansive soils within Sutter County is most likely to occur in basins and on basin rims (Sutter County 1996, Figure 10.3-1). Soils with no or low expansion potential occur along the rivers and river valleys and on steep mountain slopes. The only area along the project route in Sutter County that has a high shrink-swell potential is the Clear Lake-Capay general soil map unit, which is where the southernmost portion of the project route would occur (Sutter County 1996).

Subsidence. Subsidence is the sinking of a large area of ground surface in which the material is displaced vertically downward, with little or no horizontal movement. Subsidence occurs in three ways: as a result of groundwater overdraft or oil and gas withdrawal; compaction and oxidation of peat soils; and hydrocompaction. Land subsidence caused by groundwater overdraft results when groundwater extraction produces compression of a clay bed within an aquifer so much that it no longer expands to its original thickness after groundwater recharge. The pores within the clay bed collapse, and the surrounding clay particles settle in their place. When the clay particles settle, the clay bed is effectively thinned, resulting in permanent land subsidence at the ground surface. Subsidence can also occur from the withdrawal of oil and gas. Land subsidence as a result of compaction and oxidation of peat soils and/or hydrocompaction are not significant concerns in the northern Sacramento Valley.

The damaging effects of subsidence include gradient changes in roads, streams, canals, drains, sewers, and dikes. Many such systems are constructed with slight gradients and may be significantly damaged by even small elevation changes. Other damaging effects include damage to water wells resulting from sediment compaction and increased likelihood of flooding of low lying areas (Butte County 2005). Subsidence is a potential hazard for the portions of Butte County located within the Sacramento Valley. The greatest potential subsidence areas are those where heavy groundwater withdrawal is occurring in gas-producing areas. According to investigations by the U.S. Geological Survey, the areas of heaviest groundwater withdrawal extend about two miles north and south of Chico and in a one-mile radius around Gridley—areas ~~where~~ **outside of** the project route ~~would traverse~~. The amount of subsidence that could take place depends primarily on the amount of groundwater withdrawal (Butte County 2005).

No information pertaining to land subsidence in Yuba County is readily available. However, it appears that land subsidence is a potential hazard for the portions of Yuba County located within the Sacramento Valley (Butte County 2005, Figure 16-6).

Sutter County is not subject to high subsidence. Future potential for subsidence in Sutter County could result from prolonged periods of drought and a significant increase in natural gas withdrawal (Sutter County 1996).

Regulatory Setting

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. While this Act does not specifically regulate substations, it does help define areas where fault rupture is most likely to occur by grouping faults into categories of active, potentially active, and inactive.

The Seismic Hazards Mapping Act of 1990 directs the CGS to delineate Seismic Hazard Zones and requires that site-specific geotechnical investigations be performed prior to permitting most urban development projects within seismic hazard zones. It addresses the effects of strong ground shaking, liquefaction, landslides, or other ground failure and other seismic hazards caused by earthquakes. The Act also addresses tsunamis and seiches.

Applicant Proposed Measures

The applicant has incorporated the following applicant proposed measures (APMs) into the project to minimize or avoid impacts on geology and soils. See Chapter 1.0 for a complete list of APMs that the applicant has incorporated into the project to avoid or minimize impacts on all resources.

APM GEO-1: Incorporate measures identified in geotechnical report/use of standard engineering practices to mitigate for individual site-specific and design-specific hazards.

APM HYDRO-1: Prepare and implement a storm water pollution prevention plan.

3.6.2 Environmental Impacts and Mitigation Measures

- a. *Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
 - i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

LESS THAN SIGNIFICANT. The project does not lie within an Alquist-Priolo Earthquake Fault Zone. The purpose of the Alquist-Priolo Act is to regulate development near active faults to mitigate the hazard of surface rupture. Faults in an Alquist-Priolo Earthquake Fault Zone are typically active faults. The closest mapped fault, the Willows Fault Zone, is not considered an active fault and is not delineated on the most recent Alquist-Priolo Fault Zoning Map (CGS 2007); however, the fault is considered potentially active. Kleinfelder (2001) indicates that a M6.6–6.7 was appropriate for the Willows Fault, although there is some speculation as to whether or not the fault is currently active. Both the Cleveland Hill Fault and the Dunnigan Hills Fault are considered active and capable of producing M6.5–6.7 and M6.6 earthquakes, respectively. Due to the close proximity of the project route to the Cleveland Hill Fault and the Willows Fault Zone, potential impacts from surface fault rupture may be significant. Transmission poles are susceptible to damage or failures if they directly overlie a fault trace that experiences surface rupture. Within the project route, the potential for fault surface rupture is generally concentrated in the vicinity of mapped active and early Quaternary fault traces and within established earthquake fault zones. As demonstrated in other areas of California, surface fault rupture and significant ground distortion may occur within a zone extending several hundred feet on either side of the main fault trace. Therefore, project components that intersect, occupy, or are adjacent to active and early Quaternary fault traces and earthquake fault zones are subject to potentially significant impacts from fault surface rupture. However,

the project does not appear to cross any known fault, and no change to the existing conditions would occur during construction. With implementation of APM GEO-1, impacts caused by the rupture of a known earthquake fault would be less than significant.

ii) Strong seismic ground shaking?

LESS THAN SIGNIFICANT. The project is located in a seismically active area given the proximity and number of potential seismic sources. The closest potentially active fault to the project route is the Willows Fault Zone (less than 2 miles from the southern end of the project route) but is not delineated on the most recent Alquist-Priolo Fault Zoning Map (CGS 2007). Active faults closest to the project route are the Cleveland Hill Fault (2.5 miles east of the project route) and the Dunnigan Hills Fault (about 19 miles to the west). These faults are in Alquist-Priolo Earthquake Fault Zones. Based on the number and proximity of two known active faults (Figure 3.6-1), there is the potential for an earthquake to occur during the life of the project.

A large earthquake on any of the nearby faults could cause strong ground shaking along the project route, with the potential to damage associated project structures. The greatest potential for strong seismic ground shaking along the project route comes from the active Cleveland Hill Fault, which has produced moderately large earthquakes in the past. In addition to the Cleveland Hill Fault, other active or early-Quaternary faults in the vicinity of the project also present the potential for strong ground shaking.

Overhead transmission lines, however, can accommodate strong ground shaking. Wind-loading design requirements for overhead lines are generally more stringent than those developed to address strong seismic ground shaking. With implementation of APM GEO-1, impacts from strong seismic shaking would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

LESS THAN SIGNIFICANT. Severe ground shaking can trigger landslides, cause fissures and cracks to open in the ground, and cause loose, saturated materials to liquefy. Liquefaction susceptibility reflects the relative resistance of soils to loss of strength when subjected to ground shaking, and occurs primarily in saturated, loose, fine-to-medium grained soils in areas where the groundwater table is within approximately 50 feet of the ground surface. Shaking causes the soils to lose strength and behave as a liquid. The potential for liquefaction along the project route is moderate. Seismic-induced ground failure has the potential to distress, displace, and/or destroy project components. However, no change to the existing conditions would occur during construction. Use of site-specific seismic data for project design obtained through geotechnical investigation would reduce potential impacts of liquefaction and other types of seismic ground failure. Therefore, with implementation of APM GEO-1, impacts caused by strong seismic shaking would be less than significant.

iv) Landslides?

LESS THAN SIGNIFICANT. Landslides can occur as shallow slides of unconsolidated material as well as deep-seated slides in bedrock. Events that trigger landslides include seismic ground shaking, over-weighting the slope with either naturally-deposited colluviums or artificial fill, decreasing soil cohesiveness by adding water to the materials on the slope, or undercutting a slope through erosive action or man-made disturbance. Based on an analysis of aerial photographs, no landslides were observed along the project route (Kleinfelder 2008), and no geomorphic features indicative of landsliding were observed (e.g., scarps, hummocky topography, etc.). However, the project route does cross several major rivers and/or drainages with embankments. The stability of major river levee embankments is the purview of the United States Army Corps of Engineers. The stability of other embankments and/or creek banks that

could affect the proposed pole foundations would need to be assessed during preparation of the project geotechnical report(s). No change to the existing soil stability conditions, including potential for landslides, due to implementation of the project would occur during construction. With implementation of APM GEO-1, impacts caused by landslides would be less than significant.

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

LESS THAN SIGNIFICANT. Grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase erosion, runoff, and sedimentation. Construction activities could also result in soil compaction and wind erosion effects that could adversely affect soils and reduce the re-vegetation potential at the construction sites and staging areas. A Storm Water Pollution Prevention Plan (SWPPP) would be developed by a qualified engineer or erosion control specialist and implemented before construction (APM HYRDO-1). The SWPPP would include details of how the sediment and erosion control BMPs would be implemented. Implementation of the SWPPP would comply with state and federal water quality regulations. In addition, relevant recommendations from the required site-specific, design-level geotechnical investigations required under APM GEO-1 would also minimize negative effects associated with erosion, runoff, and sedimentation. As a result, erosion impacts would 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?

LESS THAN SIGNIFICANT. The project would be located on near-surface materials that include residual silt and clay soils overlying volcanic sediments and/or tuffs in Oroville, and/or interbedded clays, silts, sands, and gravels of the Tertiary Laguna Formation on the northern end of the project route. The remainder of the project route to the south would traverse older Quaternary alluvium including interbedded clays, silts, sands, and gravels of the Modesto and Riverbank Formations, and younger Quaternary silt, sand, and gravel river channel and overbank deposits, and organic rich, lean to dense clay basin deposits. Soft and/or loose soils would be generally expected to occur in various areas along the project route. Along the project route, differential settlement would be expected to be a concern.

Destabilization of natural or constructed slopes could occur as a result of construction activities. Excavation, grading, and fill operations associated with providing access to tower locations and other project components could alter existing slope profiles making them unstable as a result of over-excavation of slope material, steepening of the slope, or increased loading. Temporary construction slopes and existing natural or constructed slopes impacted by construction operations would be evaluated for stability. Construction activities likely to result in slope or excavation instability would be suspended during and immediately following periods of heavy precipitation when slopes are more susceptible to failure. For construction requiring excavations, such as foundations, appropriate support and protection measures would be implemented to maintain the stability of excavations and to protect surrounding structures and utilities.

With implementation of APM GEO-1, design-level geotechnical investigations would be performed where necessary to evaluate subsurface conditions, identify potential hazards, and provide information for development of excavation plans and procedures. Appropriate design features and construction procedures would be implemented to maintain stable slopes and excavations during construction. Therefore, impacts from slope or excavation instability would 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?

LESS THAN SIGNIFICANT. Soil expansiveness (or shrink-swell potential) is expected to range from none to high along the project route. Many of the natural soil types identified along the project route have high clay contents and thus potentially have moderate to high shrink-swell potential. Site-specific soil expansiveness analyses should be performed where these deposits are mapped and/or encountered during the subsurface investigation(s). Expansive soils may cause differential and cyclical foundation movements that could cause damage and/or distress to overlying structures and equipment. Potential operation impacts from loose sands, soft clays, and other potentially compressible soils include excessive settlement, low foundation-bearing capacity, and limitation of year-round access to project facilities. However, design-level geotechnical studies would be conducted to develop appropriate design features for locations where potential problems are known to exist (APM GEO-1). Appropriate design features may include excavation of potentially problematic soils during construction and replacement with engineered backfill, ground treatment processes, direction of surface water and drainage away from foundation soils, and the use of deep foundations such as piers or piles. No change to the existing soil stability conditions, including expansive soil, due to implementation of the project would occur during construction and operation. With implementation of APM GEO-1, impacts would be less than significant.

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

NO IMPACT. The project would not involve the construction of septic tanks, the use of existing septic tanks, or an alternative wastewater disposal system during construction or operation. Therefore, there would be no impact under this criterion.

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3.7 Greenhouse Gas Emissions

Table 3.7-1 Greenhouse Gas Emissions Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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 any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.7.1 Setting

Greenhouse gases (GHGs) are gases that have been shown to trap heat in the atmosphere. Because of this characteristic, and because GHGs can remain in the atmosphere for decades or longer, GHGs are thought to have an effect on climate change (CARB 2009). The Intergovernmental Panel on Climate Change (IPCC) has found that there is a correlation between increased atmospheric levels of carbon dioxide (CO₂) and rising global temperatures (Figure 3.7-1).

The term “climate change” refers to any significant change in measures of climate (temperature, precipitation, or wind) that lasts for an extended period (decades or longer). Climate change may be affected by a number of factors including natural cycles, such as changes in the sun’s intensity; natural processes within the climate system, such as changes in ocean circulation; and human activities that change the atmosphere’s composition (such as the release of carbon dioxide through burning fossil fuels) or land surface (such as deforestation or urbanization) (USEPA 2010).

GHGs identified by the State in California Assembly Bill 32 (AB 32) include: CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

Global warming potential is a measure of how much a given amount of GHGs is estimated to contribute to climate change and is devised to determine potential warming effects of different gases. Global warming potential is a relative scale that compares the GHG to that of CO₂. For a given GHG, the CO₂ equivalency (CO₂e) is a quantity that describes the amount of CO₂ that would have the same global warming potential, when measured over a specified timescale (generally, 100 years). The global warming potential of CH₄ over 100 years, for example, is 21. This means that the emission of 1 million metric tons of CH₄ would be equivalent to the emission of 21 million metric tons of CO₂.

The effects of climate change on the project area and region are difficult to predict with accuracy, but could result in intensely hot summers, electricity shortages, increased fire risk, socioeconomic impacts, and impacts to agriculture, public health, ecologically sensitive habitat, plant and wildlife resources, and water resources.

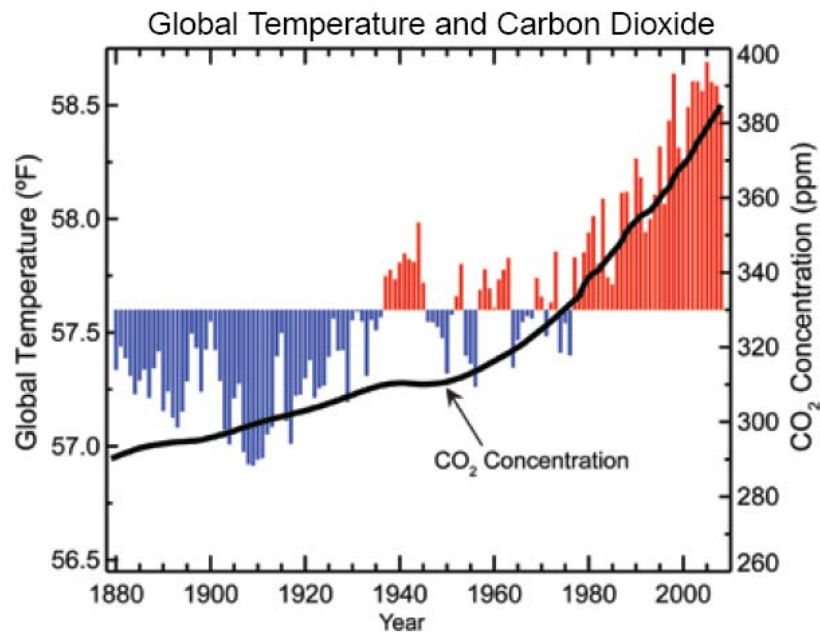


Figure 3.7-1 Relationship Between Global Temperature and Carbon Dioxide

Source: USGCRP 2009

Applicable Regulations, Plans, and Standards

California is a substantial contributor to global GHG emissions: it is the second largest contributor in the U.S. and the sixteenth largest in the world (CEC 2006). As a result of climate change, California is expected to experience poorer air quality, a sharp rise in extreme heat, a less reliable water supply, more dangerous wildfires, and increased risks to agriculture in the future. Statewide, annual temperatures are expected to increase by as much as 10 degrees Fahrenheit by 2100 (CEC 2006).

Regulations addressing the assessment and mitigation of climate change have been established on the federal and state levels. Neither Butte County Air Quality Management District (BCAQMD) nor Feather River Air Quality Management District (FRAQMD), however, have established guidelines or CEQA significance thresholds for GHG assessment.

Federal

In 2009, the United States Environmental Protection Agency (USEPA) issued the Final Mandatory Reporting of Greenhouse Gases Rule, which requires reporting of GHG emissions from large sources and suppliers in the U.S. The intent is to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit the specified amount (or more) per year of GHGs are required to submit annual reports to USEPA. The gases covered by the proposed rule are CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, and other fluorinated gases. The rule became effective December 2009. Facilities are required to collect emissions data as of January 1, 2010. The first emissions reports are due to be submitted by March 31, 2011.

State

Executive Order S-3-05 and Assembly Bill 32

California Governor Arnold Schwarzenegger issued Executive Order S-3-05 in 2005, establishing statewide GHG emission reduction targets of 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. In 2006, Governor Schwarzenegger signed the Global Warming Solutions Act, Assembly Bill (AB) 32, with the requirement of reducing the State's GHG emissions to 1990 levels by 2020. With the passage of AB 32, the California Legislature officially recognized the State's vulnerability to the effects of global warming. The AB 32 program is the first statewide program in the country to mandate an economy-wide emissions cap that includes enforceable penalties.

Senate Bill 97

The California Senate passed Senate Bill 97 in 2007, requiring the Governor's Office of Planning and Research to prepare, develop, and transmit guidelines for the feasible mitigation of GHG emissions or their effects, including, but not limited to, effects associated with transportation or energy consumption.

California Air Resources Board, Climate Action Team, and Climate Change Scoping Plan

In 2007, based on its 1990 to 2004 inventories of GHG emissions in California, California Air Resources Board (CARB) staff approved a total of 427 million metric tons of CO₂e as the statewide GHG 1990 emissions level and 2020 emissions limit. This limit is an aggregated statewide limit, rather than sector- or facility-specific. Taking into account expected growth in population and energy use, the emissions reduction target is estimated to be equivalent to approximately 30 percent below business emissions as usual by the year 2020.

The Climate Change Scoping Plan (Scoping Plan), approved by CARB in 2008 to fulfill Section 38561 of AB 32, is the State's roadmap to reaching GHG reduction goals. The plan, developed by CARB in conjunction with the California Climate Action Team,¹ outlines a number of key strategies to reduce GHG emissions. The measures in the Scoping Plan will take effect in 2012. Discrete early action measures include a low carbon fuel standard, landfill CH₄ capture, reductions from mobile air conditioning, semiconductor reductions, SF₆ reductions, and a heavy-duty vehicles measure.

CEQA Guideline Amendments

In December 2009, the California Natural Resources Agency adopted CEQA Guidelines Amendments with new language for addressing the quantification and mitigation of GHG emissions. The Amendments became effective March 18, 2010. Updates to the Amendments include:

- Section 15064: Requires a lead agency make a "good-faith effort, based on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project." The agency may use a quantitative or qualitative analysis.
- Section 15126.4: Mitigation measures may include measures in an existing plan or mitigation program; implementation of project features; off-site measures, including offsets; or GHG sequestration. Mitigation in a plan may include project-specific mitigation.
- Appendix G: Two checklist items under a new Greenhouse Gas Emissions category were added to the checklist in Appendix G of the CEQA Guidelines (OPR 2009).

¹ The California Climate Action Team was formed in 2004 to assist CARB with the Climate Change Scoping Plan. It is comprised of 14 agencies and 11 subgroups.

Local

In evaluating GHG impacts associated with development projects, the BCAQMD and CCAPCD follow the guidance and recommendations from the California Air Pollution Control Officers Association (CAPCOA 2008). Although the CAPCOA document has not been officially endorsed by the State, it is often used by air districts as a resource for how to treat GHG-related impacts in EIRs because there is, to date, no generally accepted approach. BCAQMD and FRAQMD have not established guidelines or significance thresholds for GHG assessment and, instead, rely on the CAPCOA document for guidance regarding appropriate analytical methodologies and mitigation.

Applicant Proposed Measures

The applicant has incorporated the following applicant proposed measures (APMs) into the project to minimize or avoid impacts on cultural resources. See Chapter 1.0 for a complete list of APMs that the applicant has incorporated into the project to avoid or minimize impacts on all resources.

APM AIR-3: Minimize greenhouse gas emissions during construction

3.7.1 Environmental Impacts and Mitigation Measures

- a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?*

LESS THAN SIGNIFICANT IMPACT. At this time, there are no mandatory GHG regulations or finalized agency threshold of significance that apply to the proposed project. In the absence of an accepted or adopted significance threshold, and in order to conservatively assess impacts from GHG emissions, a quantitative significance criterion of 10,000 metric tons (MT) of CO₂e per year is used for this analysis. This value corresponds to the interim threshold adopted by the South Coast Air Quality Management District (SCAQMD) in response to the adoption of AB 32. Using this level for the proposed project is consistent with the nature of impacts associated with GHG emissions, which do not produce a direct localized effect, but take place on a statewide and global scale.

During project construction, GHGs would be emitted from employee vehicles, light-duty vehicles (crew trucks, line trucks, and water trucks), helicopters, and off-road equipment (bulldozers, graders, and backhoes). GHG emissions were estimated for each construction phase using the URBEMIS 2007 emissions model and published emission factors. Based on the construction techniques used, the estimated GHG emissions from project construction are estimated at approximately 3,000 MT of CO₂e (Appendix A). Amortized over a 30-year period, these GHG emissions are estimated at approximately 100 MT of CO₂e per year. Thus, GHG emissions generated from project construction would be less than significance criteria of 10,000 MT of CO₂e per year and, thus are considered less than significant.

For operation of the transmission line following construction activities, no additional maintenance is required beyond the existing ongoing maintenance. Therefore, no long-term GHG emissions increase would result from construction or operation of the project. Even though GHG emissions from project construction would have a less than significant impact, APM AIR-3 would help to reduce GHG emissions during construction.

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

NO IMPACT. The scoping plan approved by the CARB Board in December 2008 provides the outline for actions to reduce California's GHG emissions (CARB 2008). The scoping plan requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. At this time, there are no mandatory GHG regulations or finalized agency guidelines that would apply to the project.

CARB, under the California Global Warming Solutions Act of 2006, has the primary responsibility for reducing greenhouse gas emissions. A substantial portion of the GHG emission reductions proposed in the 2006 Climate Action Team Report to reach 1990 emission levels by 2020 are strategies to be taken by agencies other than CARB (CalEPA 2006). CARB has set forth a list of early action measures to be adopted and implemented by January 1, 2010. The *Proposed Early Actions to Mitigate Climate Change in California* document is a status report on early actions being taken by the participating departments and agencies (CARB 2007).

In the absence of established State regulations addressing mitigation of impacts related to GHG emissions, the California Governor's Office of Planning and Research (OPR) has issued guidance to encourage agencies to develop a regional approach (OPR 2009). The project route is located within Butte, Sutter, and Yuba counties. BCAQMD has air quality jurisdiction over Butte County and FRAQMD has air quality jurisdiction over Sutter and Yuba counties. Neither BCAQMD nor FRAQMD have issued guidance for GHG reporting or set thresholds for the analysis of GHG emissions under CEQA. Therefore, there would be no impact under this criterion.

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3.8 Hazards and Hazardous Materials

Table 3.8-1 Hazards and Hazardous Materials Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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"/>

This section addresses the environmental setting and impacts related to the construction and operation of the project involving the issues of environmental hazards and hazardous materials. Hazards include the risks associated with potential explosions, fires, or release of hazardous substances in the event of an accident or natural disaster, which may cause or contribute to an increase in mortality or serious illness, or pose substantial harm to human health or the environment. Hazardous materials are classified as those that include solids, liquids, or gaseous materials that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, could pose a threat to human health or the environment.

Reconstruction work on the project could result in the exposure of the public and workers to potential health and safety hazards such as chemical substances and fuel-powered equipment, helicopters for transporting structures and personnel, high-voltage electrical equipment (~~potential fire hazard and EMF source~~), seismic hazard, and the potential finding of contaminated soils or groundwater during excavations.

Hazardous materials such as fuel, oil, and lubricants would likely be used during project construction. In addition, subsurface construction would involve excavation in areas with contaminated soil or groundwater, as well as the generation of debris. If encountered, contaminated soil or groundwater may qualify as hazardous waste, requiring regulated handling and disposal.

3.8.1 Setting

The project route traverses predominantly agricultural portions of Butte, Sutter, and Yuba counties but also includes mixed land uses, such as residential, commercial, and industrial. Land uses along the project route that have the potential to create safety hazards and/or may contain hazardous materials are predominantly agricultural with some residential and industrial uses. Much of the project route parallels the Western Pacific Railroad alignment and/or area levees.

The project route traverses portions of Butte County designated as agricultural, agricultural residential, industrial, and commercial (Butte County 2009). In Sutter County, the project route crosses or is adjacent to agricultural properties where agricultural pesticides and herbicides are likely used (PG&E 2009).

Within Yuba County, the project route crosses or is adjacent to properties designated by the Yuba County General Plan as Valley Agricultural, Single Family Residential, Multiple Family Residential, Public, Industrial, and Community Commercial. Agricultural pesticides and herbicides are likely in use or have been used in agricultural and newer residential areas. Facilities in Yuba County located within 1 mile of the project right-of-way (ROW) and associated with hazardous materials include the Yuba County Airport, agricultural lands, and residential and commercial areas (PG&E 2009 and DigitalGlobe 2009).

Hazardous Materials Sites near the Project ROW

A review of environmental databases was conducted to identify those sites known to be associated with releases of hazardous materials or wastes along the project route (EDR 2008, DTSC 2009, and SWRBC 2009). This research covered a 1-mile radius centered on the project route. A summary of the sites listed within 0.5 miles of the project ROW centerline is provided in Table 3.8-2. The following federal and state databases listed below were reviewed (EDR 2008):

- Federal: National Priority List (NPL), Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), CERCLIS No Further Remedial Action Planned (CERCLIS-NFRAP), Resource Conservation and Recovery Act Information System (RCRIS, CORRACTS and Non-CORRACTS TSD facilities, RCRA Generator List and RCRA-NonGen), Facility Index System (FINDS), US Brownfields, Emergency Response Notification System (ERNS), and others.
- State of California: HIST Cal-Sites, Bond Expenditure Plan, Cortese List, California SWRCY (list of recycling facilities), California SWF/LF (Landfill facilities), California LUST (leaks of hazardous substances from underground storage tanks), Facility Inventory Database (CA FID UST), Spills, Leaks, Investigations and Cleanups (SLIC), Underground Storage Tank (UST) List and HIST UST (historical UST sites), Aboveground Storage Tank (AST), SWEEPS UST (underground storage tank listing), Voluntary Cleanup Properties (VCP), RESPONSE (confirmed release sites), HAZNET (hazardous waste disposal sites), EMI (toxics and criteria pollutant emissions data), ENVIROSTOR (known or suspected contamination sites), and others.
- “Orphan” listings: The research included the “unmappable” (also referred as “orphan”) listing, cross-referencing available address information and facility names.

Table 3.8-2 Hazardous Materials Sites Identified Along the Project Route

Site/Location	Proximity to the ROW centerline (miles)	Data Source	Hazard Type/Finding
Yuba Sutter Disposal, Inc / YSDI Greenwaste Composting 3001 North Levee Rd, Marysville, CA	0 – 0.25	SWF/LF, WMUDS/SWAT, CA WDS	Class III landfill for non hazardous waste.
Feather River Veterinary Hospital 5975 Woodland Dr, Marysville, CA	0 – 0.25	HAZNET	Disposal of photochemicals and photoprocessing waste.
E-Z Serve 1822 North Beale Rd, Marysville, CA	0.25	LUST, Cortese	Release of gasoline that impacted groundwater. Open – Site Assessment Status. This site is located west of the project ROW.
Texaco Station #120 4867 Oliverhurst Rd, Oliverhurst, CA	0.25	LUST, Cortese, Notify 65, SWEEPS UST	Release of gasoline that impacted groundwater.
Mathews Brothers 950 Ramirez Rd, Marysville, CA	0.25	CA FID UST, HIST UST, SWEEPS UST	No releases were reported in the EDR database report.
Eastside Market and Gas 7422 Lincoln Boulevard, Palermo, CA	0.25	HIST UST, SWEEPS UST	No releases were reported in the EDR database report.
Rancho Cenedella Inc 7681 Jack Slough Road, Marysville, CA	0.25	AST, HIST UST, CA FID UST, SWEEPS UST	One 5,000-gallon AST and unleaded gasoline UST. No releases were reported in the EDR database report.
East Nicolaus Market 1968 East Nicolaus Ave, Nicolaus, CA	0.25	LUST	Release of gasoline in 1997. Drinking water was affected.
Brown's Elementary School 1248 Pacific Ave, Rio Oso, CA	0.25	HAZNET, LUST, Cortese	The case has been closed by the local regulatory agency.
Circle A 1215 22 nd Street East, Marysville, CA	Greater than 0.25	LUST	Release of gasoline discovered in 2003. Groundwater has been impacted. A clean-up and abatement order was issued in 2006.
Oliverhurst Recycling Center 4833 Oliverhurst Ave, Oliverhurst, CA	0.25 – 0.5	SWRCY	No data indicative of leaks or releases from this facility has been reported.
Danna and Danna 1001 Feather River Blvd, Marysville, CA	0.25 – 0.5	LUST, Cortese, Notify 65	A gasoline release was reported in 1989. No data was available.
Sierra View Memorial 4900 Olive Ave, Marysville, CA	0.25 – 0.5	LUST, Cortese	The case has been closed by the local regulatory agency.
Gee Property 4880 Oliverhurst Rd, Oliverhurst, CA	0.25 – 0.5	LUST, Cortese	A gasoline release was reported in 1988. The release impacted the soil only.
AGV Corner Market 4881 Oliverhurst Rd, Oliverhurst, CA	0.25 – 0.5	LUST, Cortese	A release of gasoline was reported in 1999.
Sierra Superstop #8 5057 Oliverhurst Ave, Oliverhurst, CA	0.25 – 0.5	LUST, Cortese	Controlled migration of the plume from this site.

Table 3.8-2 Hazardous Materials Sites Identified Along the Project Route

Site/Location	Proximity to the ROW centerline (miles)	Data Source	Hazard Type/Finding
Tom's Sierra Co. #76 5073 Oliverhurst Ave, Oliverhurst, CA	0.25 – 0.5	HAZNET, LUST SWEEPS UST	Disposal of tank bottom waste, and unspecified oil-containing waste. Monitoring studies concluded that if concentrations remain low and continue to decline, a recommendation for site closure will be made.
Coffee Express 5202 Lindhurst Ave, Marysville, CA	0.25 – 0.5	LUST, Cortese	Gasoline release discovered in 1990 and was determined to impact the soil only. The LUST case has been closed by the local regulatory agency.

Source: EDR 2008, DTSC 2009, DigitalGlobe 2009, SWRCB 2009.

Twelve sites listed in the Cortese List (potentially having soil and/or groundwater impacts to the environment) were identified within a 1-mile radius from the project ROW centerline. Three additional underground storage tanks sites (LUST sites) were also identified along the project route. In addition, the proposed transmission line modifications would pass through agricultural lands; therefore, there is also the possibility that herbicides or other agrochemicals would be present in the soil.

The orphan listing review also identified a potentially contaminated site within a 1-mile radius of the project ROW centerline (EDR 2008):

- PG&E Manufactured Gas Plant SV-CG-MRY-2 (ENVIROSTOR). The site is located in downtown Marysville, a residential and commercial area. According to the California Department of Toxic Substances and Chemicals (DTSC), the site was the location of a former gasification plant. Residues and waste from the manufacturer's gas process were stored and disposed onsite. In addition, petroleum leaked from onsite storage tanks. Potential contaminants of concern at this facility include total petroleum hydrocarbons (TPH) as diesel (TPHd), as gasoline (TPHg), and as motor oil; and polynuclear aromatic compounds (PAHS).

Airports

A segment of the project route is located approximately 1 mile east of the Yuba County Airport, near the town of Olivehurst, in Yuba County, California. According to the Yuba County Airport Comprehensive Land Use Plan (SACOG 1994), the project route is located within the overflight zone of this airport.

Fire Safety

The project route passes through a number of areas that are classified by the California Department of Forestry and Fire Protection (Cal Fire) as moderate to high fire hazard severity zones (PG&E 2009b and Cal Fire 2009). The northern portion of the project route passes through moderate and high fire hazard severity zones from the northern end, south to near the Butte/Yuba County border. Much of this area is located in the hills east of Oroville. Most of the remainder of the area through which the project alignment passes is unzoned in Yuba and Sutter counties. Cal Fire has determined that Sutter County has no Very High Fire Hazard Severity Zones. The alignment passes through areas of moderate fire hazard severity in the vicinity of Marysville, where the alignment crosses Highway 20 and north and south of the community of Olivehurst (Cal Fire 2009).

Applicant Proposed Measures

The applicant has incorporated the following applicant proposed measures (APMs) into the project to minimize or avoid impacts on hazards and hazardous materials. See Chapter 1.0 for a full description of each APM that the applicant has incorporated into the project to avoid or minimize impacts on all resource areas.

APM HAZ-1: Implement a spill prevention plan

APM HAZ-2: Conduct construction soil sampling and testing if soil contamination is suspected

APM HAZ-3: Conduct groundwater sampling and testing if suspected contaminated groundwater is encountered during construction

APM HAZ-4: Develop and implement a helicopter lift plan

APM HAZ-5: Prepare a health and safety plan

APM HAZ-6: Develop and implement a fire risk management plan

APM HYDRO-1: Prepare and implement a storm water pollution prevention plan (SWPPP)

3.8.2 Environmental Impacts and Mitigation Measures

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

LESS THAN SIGNIFICANT. During project construction, hazardous materials such as liquid concrete, vehicle fuels, oils, and other vehicle maintenance fluids would be used and stored in construction staging areas. Operation and maintenance of the project would involve annual ground inspections and the periodic and routine transport, use, and disposal of minor amounts of hazardous materials, primarily fuel, and lubricating oils. Minor spills or releases of these hazardous materials could occur due to improper handling, storage, and/or maintenance, leading to potential soil or groundwater contamination.

Waste generation from the project includes the removed towers and conductor, remnant construction and equipment maintenance materials, and crates used to ship materials. After construction, all hazardous materials would be removed from the site. According to the applicant, steel from removed towers and conductor would be salvaged and recycled as appropriate at a local salvage facility. The removed material that cannot be salvaged, recycled, or reused would be disposed in a local landfill facility (PG&E 2009b).

In order to reduce the potential for spills and leaks of hazardous materials and reduce the severity of the impact in the event of an inadvertent spill, the applicant has proposed to include a Spill Prevention Plan in APM HAZ-1, which is related to the SWPPP to be developed as part of APM HYDRO-1. In addition, the applicant also proposes to have a minimum of 50 feet of setback from streams, creeks, or other water bodies to avoid potential impacts to the riparian habitats from construction and staging areas.

With implementation of the above actions, impacts associated with spills of hazardous materials during construction or operation of the project would 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?***

LESS THAN SIGNIFICANT. Implementation of the proposed actions required under APM HAZ-1 for spill prevention and hazardous substance control, as well as the requirements of the Storm Water Pollution Prevention Plan discussed in APM HYDRO-1, would reduce impacts under this criterion to less than significant levels.

- 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?***

LESS THAN SIGNIFICANT. The project would not emit hazardous emissions or handle acutely hazardous materials substances or waste within 0.25 miles of an existing or proposed school as defined in Section 21151.8 of the CEQA Statute. The statute specifies that any project involving the construction or alteration of a facility within 0.25 miles of a school that might reasonably be anticipated to emit hazardous air emissions, or handle an extremely hazardous substance—or a mixture containing extremely hazardous substances—in a quantity equal to or greater than the state threshold may pose a health or safety hazard to persons who would attend or would be employed at the school.

Section 25532 of the Health and Safety Code defines extremely hazardous substances as those listed in Appendix A of 40 CFR Part 355, The List of Extremely Hazardous Substances and Their Threshold Planning Quantities. Fuels, lubricant oils, and other project construction related materials are not included in this list. During the proposed transmission line reconstruction and operations, only vehicle fuels, liquid concrete, oils and related maintenance lubricants would be handled, stored, and transported. Therefore, this criterion is not applicable to construction and operation of the project.

“Hazardous emissions” means emissions that are classified as a toxic air contaminant by the California Air Resources Board or by the air pollution control board in the regional area. Diesel-fueled engines are likely to emit contaminants during construction. Potential impacts to all receptors of these emissions are discussed in Section 3.3, Air Quality.

Potential risk of accidental spills of hazardous materials during project construction are discussed in Section 3.8.2(a) of the applicant’s PEA; however, the implementation of actions proposed in the Spill Prevention Plan (APM HAZ-1) and the provisions of the SWPPP to be prepared by the applicant prior construction would reduce impacts under this criterion to less than significant levels.

- 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?***

LESS THAN SIGNIFICANT WITH MITIGATION. The provisions in Government Code Section 65962.5 are commonly referred to as the “Cortese List.” Twelve Cortese sites and three additional underground storage tank sites were identified within a 1-mile radius from the project ROW centerline (Table 3.8-2). In addition, agricultural pesticides and herbicides are likely in use or have been used in agricultural and newer residential areas.

The project would involve surface and subsurface construction activities including the removal and replacement of 240 transmission towers, the construction of temporary roads, and minor setting changes in the Palermo and East Nicolaus substations. The installation of hybrid poles—proposed for use at the majority of locations along the project route—would be augured to a maximum diameter of 7.5 feet and a

depth of approximately 20 feet. According to the applicant, these activities would involve the excavation and handling of approximately 17,640 cubic yards of soil.

Due to the fact that most of the listed contaminated sites located within a 1-mile radius of the project ROW had affected soil groundwater with hydrocarbons, and other chemicals of concern are likely in use in the area, unexpected soil or groundwater contamination ~~would~~**could** be encountered during the proposed surface and subsurface construction activities.

As part of APM HAZ-1, the applicant proposes to implement an Environmental Training and Monitoring Program, which would include a detailed sampling protocol in the event of encountering unexpected contamination along the project route or in minor replacements that would be required in substations. In addition to APM HAZ-1, the applicant proposes to implement APM HAZ-2 and APM HAZ-3 as part of the project design.

In addition to the APMs, Mitigation Measure (MM) HAZ-1 (Contaminated Soil and Groundwater Contingency Plan) would reduce potential impacts associated with hazards to the public or the environment through exposure to contaminated sites. Implementation of APM HAZ-1, APM HAZ-2, APM HAZ-3, and MM HAZ-1 would reduce impacts to less than significant levels under this criterion.

MM HAZ-1: Contaminated Soil and Groundwater Contingency Plan. The applicant shall integrate the proposed sampling protocols described in APM HAZ-2 and APM HAZ-3 into a project construction-specific contingency plan to address potential for unearthing or exposing buried hazardous materials or contamination or shallow contaminated groundwater during construction activities. The plan shall detail the preventive actions that the applicant or its contractor would take to prevent the migration of contaminated soils or other materials offsite and the remedial action that would be undertaken. Site-specific plans should be developed for the areas where there is a high probability of encountering shallow contaminated soil or groundwater within 20 feet of the ground surface and the depth of construction.

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?

NO IMPACT. The Yuba County Airport is located approximately 1 mile east of a portion of the project route (Towers 205 to 213). According to the Yuba County Airport Comprehensive Land Use Plan and its Land Use Compatibility Guidelines for Safety (SACOG 1994), the project ROW is located within the overflight zone of the airport; however, there are no restrictions to project activities within this area (SACOG 1994).

Height standards for defining obstructions to air navigation are established by the Federal Aviation Administration (FAA) and are defined in Federal Aviation Regulation (FAR) Part 77, Objects Affecting Navigable Airspace. In order to make a determination whether a project constitutes a hazard to air navigation, FAR Part 77 requires that notice be given to the FAA if any kind of proposed construction or alteration is (1) more than 200 feet in height above the ground level at its site, or (2) of a greater height than an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from all edges of the runway surface if the runway is more than 3,200 feet in length.

The Yuba County Airport has two major runways (Yuba County Airport 2009): Runway 14/32 (6,006 x 150 feet, paved, lighted) and Runway 05/23 (3,261 x 150 feet, paved). The distance between the closest portion of the project route (Tower 207) and this airport is approximately 5,600 feet from the end of

Runway 05/23 (DigitalGlobe 2009). Per FAR 77.11, the FAA would require notification for proposed structures exceeding 159 feet in height at this distance.

Given that the hybrid poles proposed to be installed along this portion of the alignment, and the cranes to be used during conductor replacement would not exceed a maximum height of 120 feet, no obstruction to the navigable airspace in the overflight zone of the Yuba County Airport is anticipated, and FAA notification would not be required. Therefore, the project would have no impact under this criterion.

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?

LESS THAN SIGNIFICANT. The Siller Bros Inc. Aviation, a private airstrip, is located within 2 miles of the project route. However, due to the distance from the project to the airport, the infrequent flights, and lighter aircraft, the project would not expose people residing or working along the project route to a safety hazard.

Structures and materials to be removed and used during construction would be transported in and out of the construction areas by both high-duty and light-duty helicopters. Helicopters would also be used to transport construction workers to some pole sites located in remote areas, or when restrictions on vehicular use and heavy equipment use are noted. According to the applicant, it is estimated that a total of 2904 minimum trips would be required for all the structure and line pulling work required by the project (PG&E 2009b). Additional information provided by the applicant indicates that helicopter contractors will handle all required FAA notifications and flight plans, alert local airports when they will be in the airport's designated airspace, and notify local law enforcement when flying in urban areas.

In order to comply with requirements of the FAA, and reduce the risk of the operation of helicopters to structures and/or persons, the applicant will implement APM HAZ-4, a helicopter lift plan. With the implementation of APM HAZ-4, impacts would be less than significant under this criterion.

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

LESS THAN SIGNIFICANT. Emergency access to the project vicinity could be affected by project construction, and construction-related traffic could delay or obstruct the movement of emergency vehicles. According to the applicant, occasionally, it may be necessary to temporarily close one lane of traffic, requiring the implementation of traffic control and safety measures (PG&E 2009a).

State Highways 65 and 70 are the primary evacuation routes for the communities of Linda, Olivehurst, and Plumas Lake (Yuba County 2006). State Highways 70, 162, and 99 are also primary evacuation routes for the City of Oroville (City of Oroville 2008).

As part of standard operating procedures, the applicant proposes to implement a Health and Safety Plan (APM HAZ-5), which includes coordination with local agencies in the event that road closures might impede emergency access routes or services (PG&E 2009a).

The implementation of the action described in APM HAZ-5 along with a project-specific traffic control plan required by Caltrans and local Counties would reduce impacts on emergency access routes or services to less than significant levels.

- 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?*

LESS THAN SIGNIFICANT. The primary risk for potential fire hazards for transmission line construction and operation would be a break in the line, which could result in a fire. Additional potential risks would involve the use of vehicles and equipment, which could generate heat or sparks and ignite dry vegetation, thus causing a fire. The project route would pass through areas considered moderate to high for wildfire hazards. The northern portion would pass through moderate and high fire hazard severity zones from the northern end, south to near the Butte/Yuba County border. Therefore, fire prevention actions should be taken in order to reduce the wildland fire risk, especially in those areas of moderate and high severity zones. The implementation of APM-HAZ 6, fire risk management plan, would reduce impacts under this criterion to less than significant levels.

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3.9 Hydrology and Water Quality

Table 3.9-1 Hydrology and Water Quality Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements?	<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 level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 runoff 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 which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
j. Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.9.1 Setting

The project is located in three counties (Butte, Yuba, and Sutter) within the Sacramento River Basin and is under the jurisdiction of the Central Valley Regional Water Quality Control Board. Figure 3.9-1 shows the hydrological features crossed by the project route.

Butte County

The northern portion of the project route would be located approximately 3 miles southeast of Oroville in Butte County. The major surface water features in this area of Butte County that would not be crossed by

the project route include: Lake Oroville, to the northeast of the northern extent of the project, and the Feather River, which flows south out of Lake Oroville and parallels the project route to the west. The major surface water features that would be crossed by the project route include: Wyman Creek, Wyandotte Creek, North Honcut Creek, and South Honcut Creek. Wyman Creek flows from east to west and would be crossed by the project route south of Oroville. See Section 3.4, Biological Resources, for a description of wetland features that would be crossed and impacted by the project.

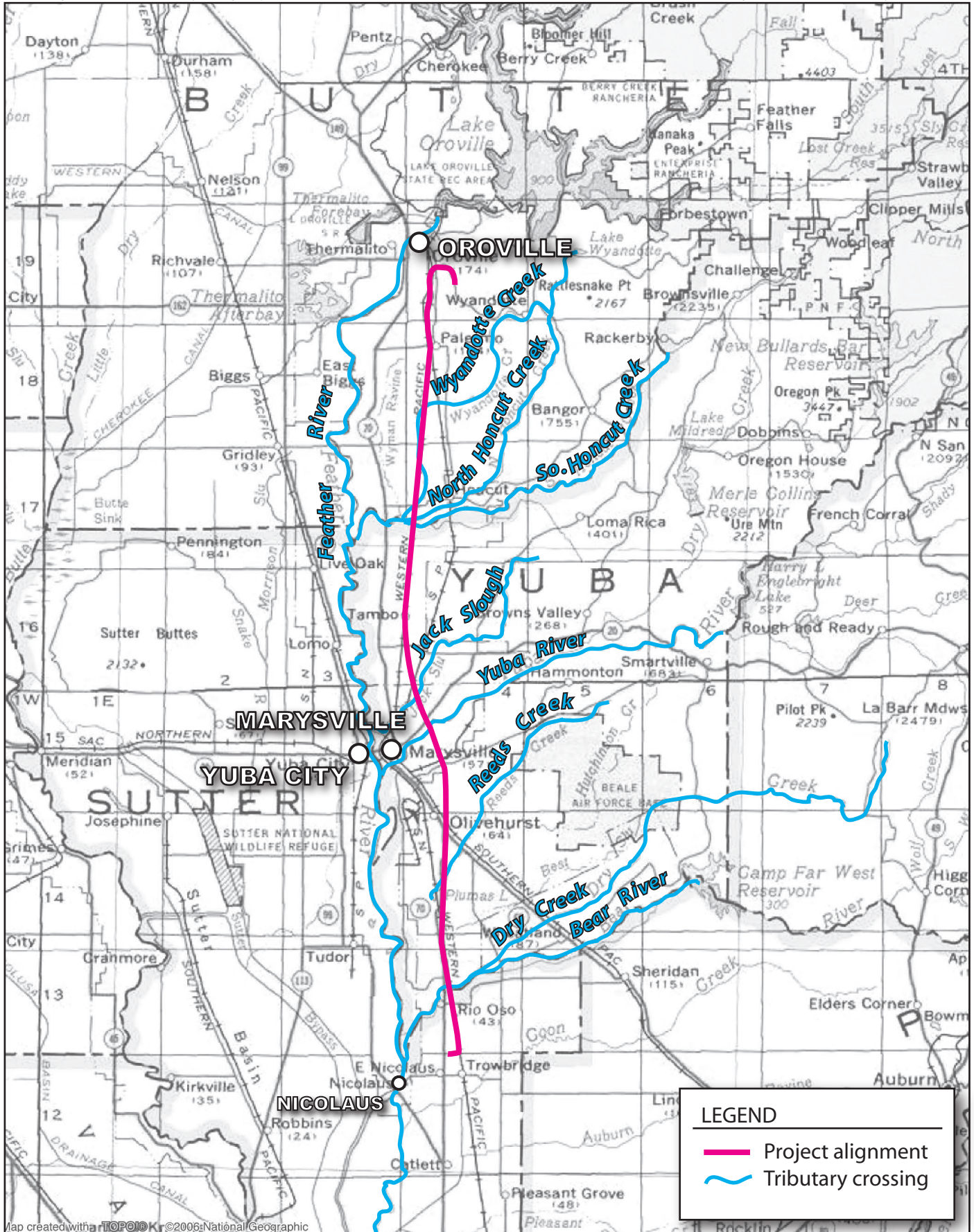
Wyandotte Creek flows from east to west and would be crossed by the project route several times between Palermo and its confluence with North Honcut Creek. North and South Honcut Creek flow from east to west and would be crossed several times by the project route at their confluence with Honcut Creek. The border between Butte and Yuba counties parallels South Honcut Creek. The minor surface water features that would be crossed by the project route are two unnamed streams located west of Palermo. According to the Clean Water Act Section 303(d) list of impaired waterbodies, the Feather River, Wyandotte Creek, and North and South Honcut Creek are not listed for any impairment (SWQRB 2009).

The northern portion of the project route would not be located within a groundwater basin identified by the California Department of Water Resources (DWR). The groundwater basin closest to the project area within Butte County is the Sacramento Valley Groundwater Basin, East Butte Subbasin (Basin Number 5-21.59), which is bound on its southeast side by the Feather River (DWR 2004). Groundwater data is not available due to the northern extent of the project route not being located within a groundwater basin identified by the DWR.

The project route would cross three Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps in Butte County (06007C0985D, 06007C0995C, 06007C1130C, and 06007C1150C). Near Oroville, the project would cross the 100-year floodplain of Wyman Creek on FIRM 06007C0985D (FEMA 2000). The project route would then continue south within the same floodplain and onto FIRM 06007C0995C (FEMA 1998a). According to FIRM 06007C0995C, the project route would leave the 100-year floodplain when Wyman Creek turns southwest away from the project route. The project route would then enter the floodplain of Wyandotte Creek just south of Honcut Road on FIRM 06007C1130C (FEMA 1998b). Continuing in the same 100-year floodplain, the project route would cross North Honcut Creek just north of the Butte and Yuba county border on FIRM 06007C1150C (FEMA 1998c).

Yuba County

The major surface water features within Yuba County that would be crossed by the project route include Jack Slough, Yuba River, Reeds Creek, and Best Slough. Jack Slough flows from east to west into the Feather River and would be crossed by the project route near Marysville. The Yuba River flows from east to west into the Feather River and would be crossed by the project route near Marysville. Reeds Creek flows from east to west into the Feather River and would be crossed by the project route south of Olivehurst. Best Slough flows from east to west into the Feather River and would be crossed by the project route south of Olivehurst. The border between Yuba and Sutter counties parallels the Bear River, which is also crossed by the project route. Ellis Lake is located approximately 2 miles east of the project route in Marysville.



00533.08 Hydro (9-08)

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PALERMO-EAST NICOLAUS 115-KV TRANSMISSION LINE

Figure 3.9-1

Feather River Tributary Crossings

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The minor surface water features that would be crossed by the project route include Simmerly Slough and two unnamed canals. Simmerly Slough flows from east to west and would cross the project route north of Jack Slough. The two unnamed canals would cross the project route near the towns of Marysville and Olivehurst. According to the Clean Water Act Section 303(d) list of impaired waterways, there are no surface-water quality impairments in Yuba County (SWQRB 2009). See Section 3.4, Biological Resources, for further description of the minor wetland features that would be crossed and impacted by the project.

The project passes through two subbasins in Yuba County: the North Yuba Subbasin (Basin Number 5-21.60) and the South Yuba Subbasin (Basin Number 5-21.61). The North Yuba Subbasin is bounded on the north by Honcut Creek, in the east by the Sierra Nevada Mountains, on the south by the Yuba River, and on the west by the Feather River. The subbasin has a surface area of approximately 50,000 acres. The storage capacity of the subbasin is estimated at 620,000 acre-feet. The water bearing formations in the subbasin consist of continental deposits of Quaternary to Late Tertiary age. Groundwater levels in the subbasin were not specified but were said to be relatively constant from 1950 through 1990 (DWR 2006a). The North Yuba Subbasin has generally good groundwater quality. Total dissolved solids concentrations range from 149 milligrams per liter (mg/L) to 655 mg/L, with a median of 277 mg/L. The water chemistry in the area indicates a calcium magnesium bicarbonate or magnesium calcium bicarbonate groundwater. There are no documented impairments to the groundwater in the North Yuba Subbasin (DWR 2006a).

The South Yuba Subbasin is bounded on the north by the Yuba River, on the east by the Sierra Nevada Mountains, on the south by the Bear River, and on the west by the Feather River. The subbasin has a surface area of approximately 89,000 acres. The storage capacity of the basin is estimated at 1,090,000 acre-feet. The water bearing formations in the subbasin consist of continental deposits of Quaternary to Late Tertiary age. In the early 1960's groundwater levels in the subbasin showed a well-developed cone of depression with water levels at the center being just below sea level. By 1984, the groundwater level at the center of the cone of depression had fallen to 30 feet below sea level. This drop in groundwater level was attributed to the continued reliance on groundwater pumping in the subbasin. However, by 1990 the groundwater level at the center of the cone of depression had risen to 10 feet above sea level. According to DWR the groundwater levels continue to increase due to increasing surface water irrigation (DWR 2006b). The South Yuba Subbasin has generally good groundwater quality. Total dissolved solids concentrations are range from 141 milligrams per liter to 686 milligrams per liter, with a median of 224 milligrams per liter. The water chemistry in the area indicates a calcium magnesium bicarbonate or magnesium calcium bicarbonate groundwater. There are no documented impairments to the groundwater in the North Yuba Subbasin (DWR 2006b).

The project would cross seven Flood Insurance Rate Maps in Yuba County (0604270200C, 0604270280B, 0604270290B, 0604270295B, 0604270360B, 0604270370B, and 0604270450B). On FIRM 0604270200C and at the border between Butte and Yuba counties, the project route would be within the 100-year floodplain of South Honcut Creek (FEMA 1983). The project route would leave the 100-year floodplain 2000 feet south of South Honcut Creek. The project route would then run along the border between two flood zone areas of "minimal flooding" to the east (Zone C) and, to the west, an area that could be flooded with less than one foot of water (Zone B). On FIRM 0604270280B, the project route would cross into the 100-year floodplain of Simmerly Slough (FEMA 1982a).

The project route would continue within the same 100-year floodplain and onto FIRM 0604270290B (FEMA 1982b). The project route would then cross the 100-year floodplain of Jack Slough on FIRM 0604270290B. On FIRM 0604270295B, the project route would cross the 100-year floodplain of the Yuba River (FEMA 1982c). Also on FIRM 0604270295B, the project route would enter the 100-year floodplain of Linda Drain and would leave on FIRM 0604270360B (FEMA 1982d). The project route

would then cross the 100-year floodplain of Olivehurst Drain. On the southern end of FIRM 0604270360B, the project route would enter the 100-year floodplain of Reeds Creek and would continue within the same floodplain on to FIRM 0604270370B. On FIRM 0604270370B, the project route would leave the 100-year floodplain of Reeds Creek (FEMA 1982e) and parallel the floodplains of Reeds Creek, Linda Drain, Western Pacific Interceptor Canal, and Best Slough through FIRM 0604270370B. The project route would then enter the floodplain of the Bear River on FIRM 0604270450B (FEMA 1982f).

Sutter County

The major surface water feature in Sutter County that would be crossed by the project route is the Bear River. The Bear River flows from east to west into the Feather River and borders Yuba and Sutter counties. Two minor surface water features that would be crossed by the project route include Ping Slough, which flows from east to west and would cross the project route south of the Bear River, and Yankee Slough, which flows from east to west into the Bear River and would cross the project route near its confluence with the Bear River. See Section 3.4, Biological Resources, for further description of the wetland features that would be crossed and impacted by the project. According to the Clean Water Act Section 303(d) list of impaired waterways, the Upper Bear River is listed as having a medium impairment for mercury. This impairment is suspected to be a result of resource extraction (a.k.a. abandoned mines) (SWQRB 2009).

After crossing Yankee Slough, the project would pass through the North American Subbasin (Basin Number 5-21.64). The North American Subbasin is bounded on the north by the Bear River, on the east by a north-south line extending from the Bear River to Folsom Lake, on the south by the Sacramento River, and on the west by the Feather River. The subbasin has a surface area of approximately 351,000 acres, and the storage capacity is estimated at 4.9 million acre-feet. The water bearing formations in the subbasin consist of unconsolidated continental deposits of Quaternary to Late Tertiary age. Groundwater levels in the Sutter County portion of the subbasin have generally been stable (DWR 2006c).

Groundwater quality in the North American Subbasin varies from good to marginal. When compared to applicable water quality standards and guidelines for drinking and irrigation water, elevated levels of total dissolved solids, chloride, sodium, bicarbonate, boron, fluoride, nitrate, iron manganese, and arsenic are present in some areas of the subbasin. Total dissolved solids concentrations exceeding 1000 mg/L are found in an area extending from just south of Nicolaus to Verona. The water chemistry in the area indicates three groundwater types: a magnesium calcium bicarbonate or calcium magnesium bicarbonate; a magnesium sodium bicarbonate or sodium magnesium bicarbonate; and a sodium calcium bicarbonate or calcium sodium bicarbonate groundwater. There are three documented impairments to the groundwater in the North American Subbasin: the former McClellan Air Force Base (AFB), Union Pacific Railroad Yard in Roseville, and the Aerojet Superfund Site (DWR 2006c). The McClellan AFB is located approximately 20 miles south southeast of the southern end of the project route. The Union Pacific Railroad Yard is located approximately 18 miles southeast of the southern end of the project route. The Aerojet Superfund Site is located approximately 20 miles south of the southern end of the project route.

The project would cross two FEMA Flood Insurance Rate Maps in Sutter County (0603940710E and 0603940720E). The project route would within the 100-year floodplain of the Bear River on FIRM 0603940710E (FEMA 2008a) and leave on FIRM 0603940720E near East Nicolaus (FEMA 2008b).

Applicant Proposed Measures

The applicant has incorporated the following applicant proposed measures (APMs) into the project to minimize or avoid impacts on hydrology and water quality. See Chapter 1.0 for a full description of each APM that the applicant has incorporated into the project to avoid or minimize impacts on all resource areas.

APM HYDRO-1: Prepare and implement a storm water pollution prevention plan

APM HYDRO-2: Develop and implement a spill prevention control and countermeasure plan

APM HYDRO-3: Perform a drainage study and comply with setback requirements and county standards

3.9.2 Environmental Impacts and Mitigation Measures

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

LESS THAN SIGNIFICANT. Construction activities that would disturb the ground surface—including grading for new and existing access roads, drilling holes for transmission towers, and demolition and construction of concrete pads for footings of the new towers—could result in soil erosion and sedimentation. In addition, construction activities associated with the proposed tower removal and new tower installation, conductor replacement, crossing structure installation, and access road improvements can introduce hydrocarbons, fluids, lubricants, and other toxic substances from construction equipment into the surrounding environment. Approximately 0.054 acres of permanent fill would be placed where 56 new structure footings are proposed for placement in wetlands or other waters, and 26.75 acres would be temporarily impacted due to ground disturbance near aquatic features located within designated work area boundaries, temporary project roadways, or where existing tower footings already located in wetlands or other waters are to be removed. Impacts to water quality could be significant.

The General Construction Permit requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) that describes erosion and sediment control measures that would be implemented for the project. APM HYDRO-1 indicates that the applicant or its contractor would prepare and implement an SWPPP as part of the project. The SWPPP would include a list of best management practices to control erosion from disturbed areas and reduce runoff. In addition, vegetative cover would be established on the disturbed areas as soon as possible after disturbance. The SWPPP would be designed to achieve the goals and objectives pertaining to the protection of water quality from the general plans for Butte, Yuba, and Sutter counties as well as for the City of Oroville.

APM HYDRO-2 indicates that the applicant or its contractor would develop and implement a Spill Prevention Control and Countermeasure Plan (SPCCP) to minimize the potential for and effects of spills of hazardous, toxic, or petroleum substances during all construction activities. The SPCCP would be included in the SWPPP prior to construction activities. In addition, the applicant indicates they would routinely inspect the construction areas to verify that the control measures specified in the SPCCP are properly implemented and maintained. The applicant would notify its contractors immediately if there were a noncompliance issue and would require compliance.

Impacts related to water quality or waste discharge are not anticipated for operation or maintenance activities associated with the project. Implementation of the SWPPP and SPCCP would reduce potentially significant impacts associated with construction-related erosion, sedimentation, and introduction of hazardous materials or toxic substances to a less than significant level. Therefore, impacts under this criterion would 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 level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?***

LESS THAN SIGNIFICANT. Construction activities associated with the project would not include significant water use or increases in impervious surfaces. In addition, operation and maintenance activities would not include significant water use. Therefore, the project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge, and impacts under this criterion would be less than significant. For more information about water use, refer to Section 3.17, Utilities and Service Systems.

- 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?***

LESS THAN SIGNIFICANT. As described under significance criteria “a” (above), construction activities that would disturb the ground surface, potentially resulting in soil erosion, include grading for new and existing access roads, drilling holes for transmission towers, and demolition and construction of concrete pads for footings. Approximately 0.054 acres of permanent fill and 26.75 acres of temporary impacts due to ground disturbance near aquatic features would occur. Implementation of the best management practices detailed in the SWPPP (APM HYDRO-1)—particularly the erosion control measures—would minimize the potential for the project to substantially alter the existing drainage pattern along the project route in a manner that would result in substantial erosion or siltation onsite or offsite. Additional requirements related to aquatic feature permitting under Section 404 and 401 of the CWA and Section 1600 of the California Fish and Game Code, as described in Section 3.4, Biological Resources, of this document, would reduce impacts to less than significant.

The applicant or its contractor would also complete a drainage study (APM HYDRO-3) for all of the areas that require grading and new roadways and areas in the 100-year floodplain where tower footings would be installed. The study would include calculations for potential increases in stormwater runoff from project activities including drainage improvements to minimize the risk of flooding in downstream areas due to project activities. The applicant would then incorporate the recommendations for the drainage study into construction plans and comply with county standards for construction in 100-year floodplains.

Additional impacts related to the alteration of existing drainage patterns are not anticipated for any operation or maintenance activity associated with the project. Therefore, impacts under this criterion would 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 runoff in a manner which would result in flooding on- or off-site?***

LESS THAN SIGNIFICANT. Construction activities include the replacement of existing towers. Although the footprint of the replacement towers is slightly larger than the existing towers, the replacement towers are not anticipated to substantially alter existing drainage patterns of the site or area due to the small increase in permanent fill (i.e., 0.054 acres). Temporary impacts include approximately 27 acres of ground disturbance and potential changes in existing drainage patterns. Temporary impacts would be

spread out along the linear footprint of the project work areas; therefore, no one area would have drainage patterns altered. Additionally, the measures as outlined above under item “c” would reduce impacts under this criterion to less than significant levels.

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?

LESS THAN SIGNIFICANT. The project would not create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. The applicant would perform a drainage study to determine potential increases in runoff water and incorporate the study’s recommendation to comply with local county standards (APM HYDRO-3). Therefore, impacts under this criterion would be less than significant.

f. Would the project otherwise substantially degrade water quality?

LESS THAN SIGNIFICANT. As described under significance criteria “a” (above), construction activities that would disturb the ground surface, potentially resulting in soil erosion, include grading for new and existing access roads, drilling holes for transmission towers, and demolition and construction of concrete pads for footings of the new towers. In addition, construction activities associated with the proposed tower removal and new tower installation, conductor replacement, crossing structure installation, and access road improvements can introduce hydrocarbons, fluids, lubricants, and other toxic substances from construction equipment into the surrounding environment.

As a result, impacts to water quality could be significant under this criterion; however, with the implementation of both the SWPPP (APM HYDRO-1) and SPCCP (APM HYDRO-2), potentially significant impacts associated with construction-related erosion, sedimentation, and introduction of hazardous materials or toxic substances would be reduced to a less than significant level. Additionally, impacts related to water quality are not anticipated for operation and maintenance activities associated with the project. Therefore, impacts under this criterion would 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?

NO IMPACT. No housing construction would occur as part of this project. Therefore, construction and operation of the project would result in no impact under this criterion.

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

LESS THAN SIGNIFICANT. A large portion of the project route would be located within a FEMA-designated Flood Hazard Area. Since new poles would replace existing poles, no new structures would be placed within the FEMA-designated Flood Hazard Area that would impede or redirect flood flows. Although the project is located within a FEMA-designated Flood Hazard Area, new poles would be engineered to withstand stresses associated with their proximity to the waterways (APM HYDRO-3). Therefore, construction and operation of the project would result in a less than significant impact under this criterion.

- 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?*

LESS THAN SIGNIFICANT. A large part of the project area is within a 100-year flood hazard zone and could expose structures to flooding, including flooding as a result of the failure of a levee or dam. The Thermalito Diversion Dam is located in Oroville, California, five miles upstream from the northern end of the project route. With the implementation of APM HYDRO-3, new structures constructed within the 100-year flood hazard zone would be engineered to withstand stresses associated with flooding. County standards for construction in the 100-year floodplains would be incorporated into design engineering.

Additionally, the existing transmission line crosses several federally-authorized flood control projects, including the Yuba River South Levee in Linda, California. The Upper Yuba Levee Improvement Project (TRLIA 2010) is proposed for the Yuba River South Levee that would involve the installation of slurry walls, seepage berms, levee geometry corrections, and levee slope erosion protection. The levee project was proposed to begin in July 2010 and last four months but has been delayed. According to Larry Dacus, Design Manager at MBK Engineers, the proposed work on the Yuba River South Levee is not expected to start until summer 2011.

Approval by the Central Valley Flood Protection Board would be required for construction of components of the proposed project that are located within a levee prism—within the waterside slope or crown of a levee, the landslide slope of a levee, or areas up to 10 feet landward from the toe of a levee. The applicant would be required to obtain an encroachment permit from the Central Valley Flood Protection Board to determine if proposed project features would pose any risk to levee integrity or flood-fight ability or impact the hydraulic profile of a floodway. In a comment letter received from the applicant during the public comment period on the Draft Initial Study (Chapter 6, Responses to Comments), the applicant stated that they have already consulted with the Central Valley Flood Protection Board and will further consult with the Board regarding potential impacts on floodways and levees.

The proposed transmission line structures would be outside of all levee prisms with the exception of the existing tower footings situated in or adjacent to the toe of the Western Pacific Intercept Canal Levee, which extends north approximately 5 miles from the Bear River toward Olivehurst, California. The existing footings would either be abandoned in place or removed and backfilled with a concrete slurry pursuant to all applicable Central Valley Flood Protection Board and United States Army Corps of Engineers permit conditions. The replacement poles along the Western Pacific Intercept Canal Levee would be located 10 to 15 feet west of the existing transmission line route to avoid encroachment in the levee prism. The line location adjustment, however, would continue to be situated within the existing transmission line ROW. Therefore, construction and operation of the project would result in a less than significant impact under this criterion.

- j. *Inundation by seiche, tsunami, or mudflow?*

LESS THAN SIGNIFICANT. There is a very low probability of exposure of people and structures to a seiche, tsunami, or mudflow since the large bodies of water closest to the project area are the Thermalito Diversion Dam, which is approximately 5 miles to the north of the project, and the Pacific Ocean, which is about 90 miles away (Google Earth 2009). Most of the project area is also located on relatively flat ground. Therefore, construction and operation of the project would result in a less than significant impact under this criterion.

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3.10 Land Use and Planning

Table 3.10-1 Land Use and Planning Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.10.1 Setting

The Palermo–East Nicolaus 115-kV Transmission Line Reconstruction Project runs approximately 40 miles from the Palermo Substation at the eastern edge of the town of Palermo in southern Butte County southwards to the East Nicolaus Substation in the town of East Nicolaus in Sutter County. Line modifications would take place entirely within the boundaries of the applicant’s easement. Most of the route passes through unincorporated portions of Sutter, Yuba, and Butte Counties in the northern Sacramento Valley and the City of Oroville.

Terrain in the project area is generally flat and consists primarily of grazing lands, agricultural fields, and orchards. The Sierra Nevada Mountains to the east and the Sutter Buttes to the west can be seen from many locations along the route. The project route crosses both rural and urbanized areas such as Marysville, Linda, Olivehurst, and Palermo. The route also passes alongside the edge of the Yuba Community College property.

Butte County

Butte County is divided into two topographical sections: a valley area in the northeast portion of the Sacramento Valley and a foothill/mountain region east of the valley. Topography includes the relatively flat Sacramento Valley Floor and associated alluvial fans, with elevations from 60 to 200 feet generally, extensive rolling foothills with an elevation range from 200 to 2,100 feet and the Cascade and Sierra Nevada Mountain ranges, with elevations from 6,000 to 14,000 plus feet above sea level. The primary land use in Butte County is agricultural.

Yuba County

Yuba County is located north of Sacramento, along the Feather River, in the Sacramento Valley. The County lies along the western slope of the Sierra Nevada, the steep slopes making it prime territory for the siting of hydroelectric power plants. Most of the population is located in or near Marysville (the county seat), which is west of the Sierra Nevada on the valley floor. The County’s primary land use is agriculture, especially fruit orchards, rice fields, and cattle grazing. Yuba County also has two planned communities, East Linda and Plumas Lake, and development of these areas is regulated by specific plans. East Linda is a residential community consisting of single-family and multifamily residences,

neighborhood-servicing commercial uses, schools, and parks. Plumas Lake consists of 5,000 acres of land in the southerly portion of the County.

Sutter County

Sutter County is located north of Sacramento along the Sacramento River in the Sacramento Valley. Sutter County includes a small volcanic formation called the Sutter Buttes. The County's primary land use is agricultural.

City of Oroville

The City of Oroville is situated on the banks of the Feather River in Butte County. Oroville is situated on the eastern rim of the Sacramento Valley and is defined by the floodplains of the Sacramento River and its tributaries.

Railroad Crossings

The project route would parallel and cross over the Southern Pacific Railroad and Union Pacific Railroad lines. The lines are used to transport agricultural goods and other materials. Passenger service is available from Oroville on Amtrak.

Airports

There are four existing airport facilities in the project vicinity. In Butte County, the Oroville Municipal Airport is located approximately 4.5 miles northwest from the project route in Palermo (Butte County 2008). In Sutter County, the Sutter County Airport is located approximately 2.35 miles east of the Town of Linda (Sutter County 2008). In Yuba County, the Yuba County Airport is located approximately 0.75 miles west of the project route in the Town of Olivehurst, and the Beale Air Force Base is located approximately 5.5 miles east of the project route in Linda (Yuba County 2008).

3.10.2 Environmental Impacts and Mitigation Measures

a. Would the project physically divide an established community?

LESS THAN SIGNIFICANT. The project area is currently occupied by similar electrical transmission facilities located within an existing 40-mile long and 500-foot wide right-of-way (easement). The project makes efficient use of current alignments and easements. It would not result in a new barrier to an existing community. Therefore, the construction and operation of the project would result in a less than significant impact under this criterion.

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

LESS THAN SIGNIFICANT. The project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. The project is a pre-existing use (the existing towers were originally constructed in the early 1900s), and the route would traverse the same parcels in the applicant's existing easement. This existing use has been contemplated in the general plans for Butte, Yuba, and Sutter counties and the City of Oroville.

Butte County

Within Butte County, the project would cross or be adjacent to land designated by the Butte County General Plan as Agricultural, Agricultural Residential, Light Commercial, and Light Industrial. The Butte County General Plan states as an objective that it seeks to “encourage expansion of private utility systems consistent with County plans and policies” (Butte County 1979). The Agricultural, Agricultural Residential, Industrial, and Commercial designations all allow utilities as a secondary use. Therefore, the project route would be consistent with the Butte County General Plan and zoning designations for the areas through which it would traverse.

Yuba County

Within Yuba County, the project would cross or be adjacent to properties designated Agricultural, Residential, Public, Business, and Industrial. In several areas that would be crossed by the project route, utility uses are listed as not permitted. In other areas, utility uses require a conditional use permit (Yuba County 1990; Yuba County 1993; Yuba County 1996). Nonetheless, the existing easement would permit the project to proceed in these areas. With the acquisition of ~~required~~ use permits, **if required**, the project route would be consistent with the Yuba County General Plan and zoning designations for the areas through which it would traverse.

Sutter County

Within Sutter County, the project route would cross or be adjacent to properties designated Agriculture. The Sutter County General Plan indicates that lands designated Agriculture are used for crop production; orchards; grazing; pasture; rangeland; resource extraction activities; facilities that directly support agricultural operations such as agricultural products processing; and necessary public utility and safety facilities (Sutter County 1996). The zoning ordinance states that communication or utility substations, gas storage, and transmission lines require a use permit. With the acquisition of a use permit, **if required**, the project route would be consistent with the Sutter County General Plan and zoning designations (Sutter County 1996; Sutter County 2008).

City of Oroville

Within the City of Oroville, the project would cross or be adjacent to properties designated Industrial by the City of Oroville General Plan. In addition, the energy element of the Oroville General Plan states as an objective that they wish to “encourage utility agencies to use existing transmission corridors for future power transmission line development” (City of Oroville 1995). Therefore, the project route would be consistent with the City of Oroville General Plan and zoning designations for the areas through which it would traverse.

CPUC General Order

Projects that maintain electrical facilities are generally exempt from local land use and zoning regulations. However, CPUC General Order No. 131-D, Section III C (CPUC 1995) requires “the utility to communicate with, and obtain the input of, local authorities regarding land use matters and obtain any non-discretionary local permits.”

Although the project would not be consistent with all of the general plan and zoning designations listed above, the applicant’s existing easement is already addressed in relevant land use plans. In addition, the CPUC has jurisdiction over the siting and design of the project. Therefore, no significant conflicts to land use planning have been identified and construction and operation of the project would result in a less than significant impact under this criterion.

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

NO IMPACT. A Yuba-Sutter Habitat Conservation Plan/ Natural Communities Conservation Plan (HCP/NCCP) area is currently in the planning stage (Sutter County Public Works 2009). The boundaries have not been determined. Though the project route would cross the proposed HCP/NCCP area (DFG 2001), the route is within an existing easement, and the HCP/NCCP area has not been adopted by local jurisdictions and wildlife agencies (i.e., the U.S. Fish and Wildlife Service and Department of Fish and Game). Therefore, the project would result in no impact under this criterion.

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3.11 Mineral Resources

Table 3.11-1 Mineral Resources Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of 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 of 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 checked="" type="checkbox"/>	<input type="checkbox"/>

3.11.1 Setting

The project route would extend just over 40 miles and pass through unincorporated and incorporated areas of Butte, Yuba, and Sutter counties. Mineral resources along the project route consist of oil and gas and deposits of rock, sand, and gravel (CGS 2002; DOGGR 2001; DOGGR 2008).

Regulatory Setting

Under the California State Surface Mining and Reclamation Act of 1975, Mineral Resource Zones (MRZs) are classified by the State Geologist to classify land according its level of significance as a mineral resource. MRZs are used to help identify and protect state mineral resources from urban expansion or other irreversible land uses that might preclude mineral extraction. The MRZ categories used to classify land include:

- SZ: Areas containing unique or rare occurrence of rocks, minerals, or fossils that are of outstanding scientific significance.
- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- MRZ-2a: Areas underlain by mineral deposits where geologic data show that significant measured or indicated resources are present.
- MRZ-2b: Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present.
- MRZ-3: Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- MRZ-4: Areas where available information is inadequate for assignment to any other MRZ.

In Butte County, the State Geologist has not yet mapped mineral resources (Butte County 2007). No MRZ designations have been identified within the County. The State Geology Board is currently reviewing petitions for the classification of two locations in Butte County, but the project route does not cross either of them (Butte County 2007).

In Yuba County, the Yuba Goldfields area and the Western World Mining Company Copper-Zinc Deposit have been classified under the MRZ system. The Yuba Goldfields area is classified MRZ-2 for its cement and concrete aggregate deposits. The Yuba Goldfields area extends from the town of Smartville west to Marysville and would be crossed by the project route. The point at which the project route would cross the Yuba Goldfields area is at the Yuba River. Yuba County, in addition to recognizing MRZ classifications, has acknowledged that the Yuba Goldfields area is a locally-important mineral resource. The Western World Mining Company Cooper-Zinc Deposit would not be crossed by the project route (Yuba County 1996; 2008).

No significant or substantial mineral deposits have been identified within Sutter County (Sutter County 2008).

3.11.2 Environmental Impacts and Mitigation Measures

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?

LESS THAN SIGNIFICANT. Mineral extraction operations exist near the project area; however, the only segment of the project route that would cross a known mineral resource is near Marysville at the Yuba Goldfields area. The area is designated MRZ-2, but no mineral extraction is currently underway. Construction and operation of the project would not obstruct or affect future ability to access the deposits. There are no productive oil or coal developments or geothermal resources along the project route. Additionally, the project involves the reconstruction of an existing transmission line along an existing right-of-way. Therefore, the project would not result in the loss of availability of a known mineral resource, and impacts would be less than significant under this criterion.

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

LESS THAN SIGNIFICANT. The only segment of the project route that would cross a known mineral resource is at the Yuba River, which is part of the Yuba Goldfields area. Though Yuba County has acknowledged that the Yuba Goldfields area is a locally-important mineral resource, the project route does not cross the Yuba Goldfields area at a location that is currently used to extract mineral resources. In addition, since the project involves the reconstruction of an existing transmission line along an existing right-of-way, the crossing is not new. It is part of the existing system. Therefore, the project would not result in the loss of availability of a locally-important mineral resource recovery site, and impacts would be less than significant under this criterion.

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3.12 Noise

Table 3.12-1 Noise Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>

3.12.1 Setting

Noise Fundamentals

Human response to noise varies depending on the person and the setting and activity in which the person is engaged while exposed to environmental noise. Certain land use types are more sensitive to noise exposure. Noise-sensitive receptors can be defined as locations where noise may interfere with people's primary activities. These locations, or receptors, include places where people sleep, such as residences and hospitals as well as schools, libraries, parks, recreation areas, business offices, and places of worship during hours of operation or primary use.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-decibel (dB) changes in sound levels when exposed to steady, single-frequency tones in the mid-frequency (1,000–8,000 Hertz [Hz]) range. However, it is widely accepted that in typical real-world environments, people are able to begin to detect sound level increases of 3 dB. Whereas a 10-dB increase is generally perceived as a doubling of loudness, a doubling of sound energy (i.e., doubling the volume of traffic on a highway or two pieces of the same model of construction equipment versus one) will produce a 3-dB change and would generally be perceived as detectable. A five-dB change, however, is generally considered to be a substantially noticeable change above the existing noise environment.

To account for the fact that human hearing does not process all frequencies equally, an A-weighting (dBA) scale was developed. Depending on the specific frequency value, the dBA scale deviates from the "linear" dB scale.

To characterize the average ambient noise environment in a given area, noise level descriptors are commonly used. The Leq, or Sound Equivalent Level, is generally used to characterize the average sound energy that occurs during a relatively short period of time, such as an hour. Two other descriptors, the Ldn (Day-Night Level) and CNEL (Community Noise Equivalent Level), would be used for an entire 24-hour period. The value of the Ldn and CNEL are generally within one dB of each other and, therefore, will be used interchangeably in this analysis. Both the Ldn and CNEL noise metric descriptors place a stronger emphasis on noise that occurs during nighttime hours (10 p.m. to 7 a.m.) by applying a 10-dB “penalty” to those hours, with the difference being that the CNEL also applies a 5-dB “penalty” to the evening hours of 7 p.m. to 10 p.m.

Existing Conditions

The project spans three counties (Butte, Yuba, and Sutter) and the project alignment extends just over 40 miles. Primary noise sources within the project vicinity include traffic on local two-lane roads; traffic from California Highways 20, 70, and 65; train activity along Union Pacific railroad tracks; and aircraft flyovers to and from Beale Air Force Base in Yuba County, the Yuba County Airport, the Sutter County Airport, and Siller Bros Inc. Aviation (a private airstrip).

Existing ambient sound levels in the project area are typical of a rural environment, where sound levels typically range from 40 to 60 dBA during the day and 20 to 45 dBA at night. Ambient levels within more densely populated areas, such as Marysville, closer to highways, or under the flight paths of aircraft would be relatively higher.

Regulatory Setting

Federal, state, and local bodies of government establish regulations and guidance to control excessive noise and reduce disturbance due to noise to a level that is acceptable within their jurisdiction. While federal and state laws regulate transportation noise, establish “normally” and “conditionally” acceptable exterior noise limits based on land-use type, and establish maximum acceptable interior noise limits for residences, federal and state provisions do not regulate noise from temporary construction activities. This type of noise is generally regulated at the local or county level.

Yuba County

The goals of the noise element of the Yuba County General Plan (Yuba County 1980) are to identify existing and potential noise sources within the community, identify strategies to minimize residents’ exposure to noise, and mitigate noise impacts to the extent feasible. Beyond characterizing existing noise sources in the community, these goals are achieved by setting provisions for acceptable noise exposure to areas within the county, based on their land use. The Yuba County noise ordinance is the primary enforcement tool for the operation of locally regulated noise sources, such as mechanical equipment and construction activity, and is set forth in Chapter 8.20 in the Yuba County Code (Yuba County 1980).

Goals and policies of the Yuba County noise ordinance related to environmental noise are as follows:

Goal NOI-YB-1: To control unnecessary, excessive, and annoying noise.

Policy NOI-YB-1: Prohibit such noise generated from or by all sources subject to its police power as specified in Chapter 8.20. To this end, the County has identified exterior noise exposure standards, which are shown in Table 3.12-2.

Table 3.12-2 Yuba County Noise Level Standards

Zone Permitted	Time	Sound Level	Maximum Noise Level
Multi-Family Residential	10 p.m. to 7 a.m.	45	55
	7 p.m. to 10 p.m.	50	60
	7 a.m. to 7 p.m.	55	65
Multi-Family Residential	10 p.m. to 7 a.m.	50	60
	7 a.m. to 10 p.m.	55	65
Commercial	10 p.m. to 7 a.m.	55	65
	7 a.m. to 10 p.m.	60	70
M1 (General Industrial Zone)	Anytime	65	75
M2 (Extractive Industrial Zone)	Anytime	70	80

Source: Yuba County Noise Ordinance (Yuba County Code, Chapter 8.20)

Section 8.20.310 pertains to construction noise. The ordinance states that it is unlawful to operate equipment within a 500-foot radius of a residential zone between the hours of 10 p.m. to 7 a.m. (nighttime hours) “in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance unless a permit has been duly obtained.”

Section 8.20.710 explains the procedural process by which a project applicant may apply to the Department of Planning and Building Services for an exemption authorized by permit when immediate compliance is impractical or unreasonable (providing the project does not exceed 6 months).

City of Marysville Municipal Code

Because Marysville is an incorporated city, it has established separate provisions that relate to noise regulation. Chapter 9.09 of the Marysville Municipal Code (City of Marysville 1991) lays forth procedural provisions for police response to loud and unreasonable noise. However, noise level standards are not set and noise due to construction activity is not addressed.

Sutter County

The goal of the noise element of the Sutter County General Plan (Sutter County 1996) is to protect county residences from the harmful effects of exposure to excessive noise. The policy stated to implement this goal is to not allow development of new noise-sensitive land uses where the existing ambient level due to noise sources would exceed acceptable limits as set forth by the County. Sutter County has not adopted a noise ordinance, and noise due to construction activity is not addressed.

Butte County

The goals of the noise element of the Butte County General Plan (Butte County 1977) are to secure and maintain an environment free from annoying noise, to provide information concerning the community noise environment, and to make noise a consideration in the on-going planning process and the development of ordinances relating thereto. Butte County has not adopted a noise ordinance, and noise due to construction activity is not addressed.

Applicant Proposed Measures

The applicant has incorporated the following applicant proposed measures (APMs) into the project to minimize or avoid impacts on noise. See Chapter 1.0 for a full description of each APM that the applicant has incorporated into the project to avoid or minimize impacts on all resource areas.

APM NOISE-1: Employ Noise-Reducing Construction Practices During Temporary Reconstruction Activities

3.12.2 Environmental Impacts and Mitigation Measures

a. Would the project expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

LESS THAN SIGNIFICANT. No additional pieces of operational equipment are proposed at the substations along the transmission line, and the transmission lines that would replace existing ones are of the same voltage. Therefore, there would be no impact from operation of the project under this criterion. High noise levels associated with the use of equipment, including helicopters, for construction of the project would result in short-term temporary impacts. As discussed under item “d” below, however, construction impacts under this criterion would be less than significant.

b. Would the project expose persons to or generate excessive groundborne vibration or groundborne noise levels?

LESS THAN SIGNIFICANT. The level of groundborne vibration that could reach sensitive receptors depends on the distance to the receptor, the type of equipment creating vibration, and the soil conditions surrounding the construction site. Ground vibration from construction equipment could be perceptible to receptors in the immediate vicinity of the construction activity. For example, the tamping of ground surfaces, the passing of heavy trucks on uneven surfaces, and the excavation of vaults and/or trenches could each create perceptible vibration in the immediate vicinity of the activity. Impacts from construction-related groundborne vibration would be short-term and confined to the immediate area surrounding the activity (not likely to exceed approximately 25 feet). No major work at the substations would be done as a part of the project. Minor relay replacement or setting changes may be required. All work would be within the existing substation control buildings. Therefore, impacts under this criterion would 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?

NO IMPACT. No additional pieces of operational equipment are proposed at the substations along the transmission line, and the transmission lines that would replace existing ones are of the same voltage. Because no new operational noise sources would be associated with the proposed project, no substantial permanent increase in ambient noise levels would occur due to its implementation. Therefore, there would be no impact under this criterion.

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?

LESS THAN SIGNIFICANT. Construction noise associated with the replacement of existing steel towers, construction of temporary access roads, and limited improvements to permanent access roads would represent a short-term impact on ambient noise levels.

Proposed pieces of construction equipment and the typical dBA noise levels associated with their use (as measured at 50 feet) are presented in Table 3.12-3. Assuming a scenario under which multiple pieces of the loudest equipment (excluding helicopter operations) are used, reasonable upper-bound noise levels (based on distance to nearest receptor) due to construction activities were predicted using methods recommended by the Federal Transit Administration (FTA 2006). Table 3.12-4 summarizes the results of this analysis.

Table 3.12-3 Proposed Construction Equipment Types and Typical Noise Emission Levels

Equipment	Typical Noise Level 50 Feet from source (dBA)
Backhoe	78
Concrete mixer truck ²	76
Crane	81
Pick-up truck	55
Dump truck	76
Equipment/tool van ¹	55
Dozer	82
Water truck ²	76
Grader	85
Rock transport ²	76
Roller	80
Hole auger	84
Line truck and trailer ¹	55

Source: FHWA 2006

Notes:

¹ Based on noise level for pick-up truck

² Based on noise level for dump truck

Table 3.12-4 Predicted Construction-Related (Non-Helicopter) Upper Bound Noise Levels Along the Project Route

Distance Between Source and Receiver (feet)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated Lmax Sound Level (dBA)	Calculated Leq Sound Level (dBA)
50	0	0	89	85
100	-6	-2	81	77
200	-12	-4	74	70
300	-16	-5	69	65
400	-18	-6	66	62
500	-20	-6	63	59
600	-22	-7	61	57
700	-23	-7	59	55
800	-24	-7	58	54
900	-25	-8	56	52
1000	-26	-8	55	51
1200	-28	-9	53	49

Table 3.12-4 Predicted Construction-Related (Non-Helicopter) Upper Bound Noise Levels Along the Project Route

Distance Between Source and Receiver (feet)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated Lmax Sound Level (dBA)	Calculated Leq Sound Level (dBA)
1400	-29	-9	51	47
1600	-30	-9	50	46
1800	-31	-10	49	45
2000	-32	-10	47	43
2500	-34	-10	45	41
3000	-36	-11	43	39

Source: Calculations based on data from FTA 2006.

Note: This calculation does not include the effects, if any, of local shielding from walls, topography, or other barriers that may further reduce noise levels.

As described in Chapter 1.0, Background Information, helicopters may be used to install poles and replace transmission towers when the use of cranes is not feasible. A large single-rotor helicopter such as the Bell 214 produces a maximum sound level of about 79 dBA at a distance of 500 feet under level flight conditions (Nelson 1987). This corresponds to a sound level of about 93 dBA at 100 feet. A small single-rotor helicopter such as the Hughes 500 produces a maximum sound level of 75 dBA at a distance of 500 feet under level flight conditions (Nelson 1987). This corresponds to a sound level of about 89 dBA at 100 feet. Helicopters could produce noise in the range of 89 to 93 dBA in the vicinity of residences that are located as close as 100 feet to helicopter staging areas. Noise from helicopters operating above pole installation locations could be as close as about 250 feet to residences. At this distance helicopter noise levels could be in the range of about 83 to 87 dBA.

With land-based construction activities located as close as 25 feet to noise-sensitive receptors, land-based construction noise levels could be as high as 91 dBA at these locations. This analysis indicates that there is potential for construction noise from both land-based construction activities and helicopter activities to exceed the Yuba County daytime noise standard of 55 dBA and to result in a substantial temporary increase in noise.

Nighttime construction (construction between 7:00 pm and 7:00 am) is also proposed as part of the project (Section 1.8.5.8). To limit potential noise impacts, nighttime work would only be undertaken between June and October and would not be undertaken in *urban areas* (Section 1.8.5.8). In addition, the only construction activities that would occur at night would be those required to raise towers, and the majority of construction staging activities, including onsite and offsite vehicle movement, would occur during the day.

APM NOISE-1 would reduce impacts from both day and nighttime construction. While it may not be feasible in all cases to reduce noise to a level that is in compliance with applicable noise standards, given the very short duration of construction activity at any one location, impacts under this criterion would be less than significant with the implementation of APM NOISE-1.

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?

LESS THAN SIGNIFICANT. Beale Air Force Base is located approximately 3.5 miles from the proposed project route; the Yuba County Airport is approximately 0.75 miles from the proposed route; and Sutter County Airport is approximately 3 miles from the proposed route. Although noise from aircraft operations

could occur along the proposed project route during construction, the temporary nature of construction work would limit the amount of noise exposure that workers along the proposed route would experience. In addition, it is assumed that workers would use noise safety gear during construction of the project. Therefore, impacts would be less than significant under this criterion. Impacts from helicopter use for construction of the project are discussed above under item “d.”

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?

LESS THAN SIGNIFICANT. Siller Bros Inc. Aviation, a private airstrip, is located within 2 miles of the proposed project route. However, due to the distance between the project route and the airport, infrequent flights at the airport, and light aircraft that take off and land there, people residing or working along the project route would not be exposed to excessive noise levels. Therefore, people residing or working along the project route would not be exposed to excessive noise levels from air traffic, and impacts would be less than significant under this criterion. Impacts from helicopter use for construction of the project are discussed above under item “d.”

References

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Sutter County. 1996. Sutter County General Plan, Section 8: Noise.

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3.13 Population and Housing

Table 3.13-1 Population and Housing Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (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 checked="" type="checkbox"/>	<input 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"/>

3.13.1 Setting

The project route would extend just over 40 miles and pass through unincorporated and incorporated areas of Butte, Yuba, and Sutter counties. The regional area is presently experiencing population and housing increases due to a regional transition from agricultural use to major residential and commercial development use. As a result, there has been substantial population growth in the region, which has created a need to meet immediate and future electrical power demand. The Sacramento Area Council of Governments (SACOG) prepares long-term job, population, and household projections based on U.S. Census data in 5-year increments to 2050. The 2000 U.S. Census reported that the population of Butte County was 204,065, Yuba County 60,598, and Sutter County 79,632 (U.S. Census Bureau 2000).

Projections from the California Department of Finance (CDF) and SACOG forecast that current growth will continue at an increasing rate based on national and state data (Table 3.13-2). By 2030, the populations of Butte, Yuba, and Sutter counties are projected to increase by 47 percent, 129 percent, and 69 percent, respectively. The projected increase in housing needs for the region is expected to correlate to increased population projections. The report, *Projections of Employment, Population and Household Income in the SACOG Region for 2000–2050*, includes data projections for Sutter and Yuba Counties (SACOG 2005). Butte County data was extracted from the Butte County Association of Governments (BCAG) Regional Growth Projections report. Tables 3.13-3 and 3.13-4 present U.S. Census information on housing units, vacancy, total employment, and construction trade employment in the regional area for the three counties.

Table 3.13-2 Regional Population Trends

	2000 Census	2010 Projection	Projected Growth 2000–2010		2020, Projection	Growth, 2010–2020	2030, Projection	Growth, 2020–2030
			Number	Percent				
Regional Population and Growth Projections								
Butte County	204,065	230,116	26,051	13%	281,442	51,326	334,842	53,400
Yuba County	60,598	80,411	19,813	33%	109,216	28,805	137,322	28,106
Sutter County	79,632	102,326	22,694	28%	141,159	38,833	182,401	41,242

Table 3.13-2 Regional Population Trends

	2000 Census	2010 Projection	Projected Growth 2000–2010		2020, Projection	Growth, 2010– 2020	2030, Projection	Growth, 2020– 2030
			Number	Percent				
Household Projections								
Butte County	85,523	99,655	14,132	17%	118,271	18,616	137,266	18,995
SACOG ¹ (Yuba)	58,885	71,668	12,783	22%	<i>Regional household growth projection increase of 500,000 or 70% between 2000 and 2030.</i>			
(Sutter)	77,547	95,041	17,494	23%				

Sources: BCAG 2006, CDF 2007, CDF 2009, SACOG 2005

Note:

¹ SACOG data for 2000 and 2009.

Table 3.13-3 Housing in the Project Area

Location	Housing Units (U.S. Census 2000)		Housing Units (SACOG 2009) ¹
	Total Units	Vacancy Rates	Total Units
Butte County	85,523	7%	N/A
Yuba County	22,636	11.4%	28,016
Sutter County	28,319	6.8%	33,681

Sources: U.S. Census Bureau 2000; SACOG 2005

Note:

¹ Projected for 2009.

Table 3.13-4 Employment in the Project Area

Location	Employment (Year 2000)		
	Total Employed	In Construction Trades	Unemployment Rate
Butte County	91,098	5,226	5.3 %
Yuba County	32,227	3,430	10.9%
Sutter County	43,080	3,611	10.6%

Source: U.S. Census Bureau 2000

The general plans of Butte, Yuba, and Sutter Counties include policies that address housing, employment, and growth management and the adequate provision of facilities and services. The Butte County General Plan Land Use Element includes a number of goals and policies to encourage continuous analysis of population trends that allow sites and facilities for population growth of the counties, encourage development in and around existing communities with public facilities, and encourage expansion, construction and efficiency of hydroelectric power plants (Butte County 2007).

The BCAG Final Regional Housing Needs Plan describes the impact of projected job growth for an increased amount of housing to meet the needs of present and future employees in Butte County (BCAG 2007). The Yuba County General Plan Housing Element goal addresses the identification of adequate sites with appropriate zoning, development standards, services and facilities to encourage the development of a variety of types of housing and includes land use zoning changes to encourage residential use in former commercial and agricultural zones (Yuba County 2008). The Sutter County General Plan includes goals for the County to require that adequate public facilities and services be available to serve new development and policies that address the direction of new urban and suburban residential development where adequate public facilities and services are available (Sutter County 2008).

The applicant estimates that approximately 160 construction workers over the full phased construction period would be required for approximately 12 to 18 months. The applicant intends to hire project construction workers from the regional labor pool. The applicant does not expect that relocation and permanent housing options will be required for project workers (PG&E 2009).

Construction of the proposed steel towers and replacement of the conductors would result in an increase in the existing rating of the transmission lines to 825 amps normally and 975 amps under emergency conditions. The applicant has stated that the location of distribution facilities have been designed to allow for future population growth and has assessed that current load increases are due to greater customer demand within the region. The reconductoring and replacement of existing infrastructure would be conducted in response to future growth.

Additionally, SACOG acknowledges that increased urbanization of rural areas and population growth increases are a result of both natural increases and migration into the area. Regional household projected growth is expected to increase by 70 percent between 2000 and 2030 (SACOG 2005). The projections report acknowledges the need to increase infrastructure facilities and services to support population growth.

3.13.2 Environmental Impacts and Mitigation Measures

- 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)?*

LESS THAN SIGNIFICANT. The project is an upgrade to existing infrastructure. The intent of the project is to increase the reliability of existing electrical supply to accommodate existing and planned growth projected by the jurisdictions of Butte, Sutter, and Yuba counties. It would not induce population growth in the region but would be growth accommodating. The availability of electrical capacity does not normally ensure or encourage growth. Other factors such as economic conditions, population trends, availability of public services (e.g., water and sewer) have a more direct effect on growth. Growth is anticipated and planned in the project area through applicable local planning policies and zoning ordinances. Reconstruction of the transmission lines would allow the applicant to continue to provide safe and reliable electrical services and to meet existing peak load demand requirements.

Construction of the proposed steel towers and replacement of the conductors would require approximately 160 construction workers over the full phased construction period of approximately 12 to 18 months. Construction work is expected to provide short-term employment opportunities to the present population base. Additional employees would not be required for operation of the project. During the construction phase, the need for temporary accommodations would be met within the regional area.

As shown in Table 3.13-4, a relatively large construction workforce is available within the regional area. Most project construction workers are expected to originate from the regional labor pool and would not generate a permanent increase in population levels or result in a decrease in the availability of permanent housing. Operation of the project is not expected to result in a significant increase in the local population or housing market and would not indirectly induce growth by creating permanent new opportunities for local industry. Therefore, a less than significant impact would result from construction of the project and no impact would result from operation of the project under this criterion.

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

NO IMPACT. The project would traverse entirely through existing transmission line easements. No existing housing would be displaced. The project work would take place entirely within existing and/or acquired right-of-ways. The project represents improvements to existing transmission lines and would strive to increase the reliability of the existing electrical supply. No existing housing would be displaced at the proposed staging areas, work sites, or locations along the transmission alignment. Implementation of the project would not result in the displacement of housing nor would it necessitate the construction of any replacement housing; therefore, no impact would result from construction and operation of the project under this criterion.

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

NO IMPACT. As previously stated, the project would not result in the displacement of any housing or businesses because there is no housing currently located within the applicant's easements. Implementation of the project would not result in the displacement of people, nor would it necessitate the construction of replacement housing elsewhere; therefore, no impact would result from the construction and operation of the project under this criterion.

References

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3.14 Public Services

Table 3.14-1 Public Services Checklist

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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.14.1 Setting

This section discusses public services including fire protection, police protection, schools, parks, and other public facilities, which are provided and maintained by a variety of local and/or regional entities. The environmental setting and evaluation of impacts to park and recreational facilities are discussed in Section 3.15, Recreation. The project route traverses Butte, Yuba, and Sutter counties. In Butte County, the City of Oroville is near the project route. Details related to the various jurisdictions are outlined below.

Fire Protection

Butte County

The Butte County Fire Department operates 42 fire stations, two of which would serve the portions of the project route located in Butte County (Butte County 2008a).

Station 72, Palermo

Station 72 is located at 2290 Palermo Road in the unincorporated town of Palermo and would serve the portion of the project route within the vicinity of Palermo. Station 72 is staffed with two firefighters 24 hours per day, 7 days per week. The station houses one engine that is often used to assist Station 74 with its duties. The estimated response time to the portion of the project route served by Station 72 would be 4 minutes maximum (Butte County 2008a).

Station 74, Gridley

Station 74 is located at 47 East Gridley Road in the unincorporated town of Gridley and would serve the project route from south of Palermo to the Yuba County border. The Station is staffed by four personnel: two are assigned to each of the station's two engines 24 hours per day, 7 days per week. Station 72 assists Station 74 with calls, meaning that three engines often arrive on site to high-priority incidents. Station 74's response time to service areas along the project route would be approximately 9 to 10 minutes (Butte County 2008a).

City of Oroville

Although the City of Oroville (City) has its own fire department, fire service for certain portions of the City are provided by Butte County. Specifically, the portion of the project route within the City of Oroville would receive fire protection services from the Butte County First Station 72 (Palermo) described above. The estimated response time of Station 72 staff to the portion of the project route within the Oroville service area would be between 2 and 5 minutes (City of Oroville 2008b).

Yuba County

The following fire stations would serve the areas of Yuba County crossed by the project route:

Olivehurst Fire Department

The Olivehurst Fire Department (Department) is located at 1962 Ninth Avenue in the unincorporated town of Olivehurst. The Department is staffed by four captains, a chief, and seasonal employees. The Department is charged with protecting the small portion of the project route that traverses the unincorporated town of Olivehurst. The Department estimates a response time of 30 seconds for the portion of the project route for which it is responsible (Olivehurst Fire Department 2008).

Linda Fire Department

The Linda Fire Department provides fire protection and emergency medical services to a 52-square-mile area, covering the unincorporated towns of Linda, Arboga, and Plumas Lake. Station 5, located at 1286 Scales Avenue, Marysville, would be responsible for providing fire protection to areas along the project route that traverse the Linda Fire Department's service area. The estimated response time to service areas along the project route is 3 minutes (Linda Fire Department 2008).

Wheatland Fire Department

The Wheatland Fire Department has three stations that serve the southern portion of Yuba County. Station 1, located at 4514 Darry Road in Wheatland, would serve areas along the project route that pass through the Wheatland Fire Department's service area. The estimated response time to service areas along the project route would vary between 4 to 9 minutes depending on the distance from the Station (Wheatland Fire Department.2000).

Marysville Fire Department

The Marysville Fire Department serves an 85-square-mile area that includes Marysville, Hallwood, and surrounding areas. The station located at 107 Ninth Street in Marysville serves areas along the project route north of Marysville to the Butte County border. Response time to these areas is estimated to be 15 minutes (Marysville Fire Department 2008).

Sutter County

The East Nicolaus Fire Department, located at 1988 Nicolaus Avenue in the unincorporated town of East Nicolaus, would serve areas along the project route in Sutter County. The station is staffed by 12 volunteer firefighters. None of these volunteer firefighters staff the station on a regular basis but instead are on-call, responding to incidents as needed. One paid firefighter is staffed at the station during harvest season, which runs from June to the end of October. During this period, this firefighter is on duty from 8 a.m. to 5 p.m.

Response time would vary depending on the call's location. The maximum estimated response time is 16 minutes. Certain volunteer firefighters could arrive at the incident sooner if they live close to the incident.

In addition, if the incident is close to the Yuba County border, the East Nicolaus Fire Department could ask for assistance from the Wheatland Fire Department, which might also reduce response time (East Nicolaus Fire Department 2008).

Police Protection Services

Butte County

The Butte County Sheriff serves that portion of the project route within unincorporated Butte County. The Sheriff's main office is located at 33 County Center Drive in Oroville. Although a sheriff substation is also located in the vicinity of the project route at 2094 Palermo Road in Palermo, service calls are not handled at the substation. Depending on an incident's proximity to the City of Oroville, the Butte County Sheriff's Office may contact the Oroville Police Department to assist with a call.

The number of officers patrolling the area in the project vicinity would depend on the time of day. Four deputies and a sergeant patrol the County during the day. After 3 a.m., staffing drops to two deputies and a sergeant. Call response time is difficult to predict because the patrolling officers' locations vary widely. The response time to calls from service areas along the project route could be several minutes or longer, depending on the location of the patrol officers when the calls are received and whether officers are already handling a call when a new call is received (Butte County 2008b).

City of Oroville

The Oroville Police Department provides police protection services within the portion of the project route within the Oroville service area. The Oroville Police Department headquarters is located at 2055 Lincoln Street in Oroville and is staffed by 23 sworn police officers, although it is budgeted for 27 police officers. Support staff are also housed in the department's headquarters. Response times to service areas along the project route would depend on the number of other calls already being handled, proximity of a patrol to the project route at the time, and the nature of the call (City of Oroville 2008a).

Yuba County

The Yuba County Sheriff provides police protection to service areas along the project route within Yuba County. The Sheriff's Department is headquartered at 215 Fifth Street, Suite 150, in Marysville, and is staffed by 55 patrol personnel. The estimated response time depends on the type of call received. If the call is the highest priority—a priority-one call—average response time is approximately 9 minutes. Response time for the lowest priority call could be as long as 30 minutes (Yuba County 2008a).

Sutter County

Areas along the project route in Sutter County would be served by the Sutter County Sheriff. The Sheriff's Department headquarters, located at 1077 Civic Center Boulevard in Yuba City, is staffed by 30 law enforcement deputies and K-9 units. Because the deputies patrol throughout the county, response times to service areas along the project route would depend on the number of patrols on-duty at the time of the incident, the nature of the incident, and the incident's proximity to Yuba City because the Sheriff's Office sometimes uses Yuba City Police officers to assist with calls. Given these factors, response times could vary from 15 to 30 minutes (Sutter County 2008).

Schools

The regional area is served by five school districts within Butte, Sutter and Yuba counties, including:

- Oroville Elementary District
- Oroville Union High School District,
- Marysville Joint Unified School District,
- Palermo Union School District, and
- Plumas Lake Elementary School District.

Each school district includes a number of schools that provide educational services for grades K through 12 students. The school nearest the project route in Sutter County is East Nicolaus High School (0.25 mile). Within Yuba County, the schools nearest the project route include Plumas Lake Charter School (0.25 mile), Linda Elementary School (0.125 mile), and Yuba Gardens Intermediate School (0.125 mile).

From north to south, the following schools would be within 2 miles of the project route: Las Plumas High School, Helen M. Wilcox Elementary School, Abright Start Preschool, Goldman Adventure Bible School, Honcut School, Cordua School, Kynoch Elementary School, Kynoch Preschool, McKenney Intermediate School, Anna Bell Karr School, Marysville Charter Academy for the Arts, Marysville High School, Linda Elementary School, Edgewater Elementary School, Ella Elementary School, Yuba Gardens School, Lindhurst High School, Olivehurst Elementary School, Arboga Elementary School, Plumas Lake Charter School, Rio Del Oro Elementary School, Riverside Intermediate School, Browns Elementary School, Three Rivers High School, Marcum-Illinois Union Elementary School, South Sutter Charter School, and East Nicolaus High School.

Applicant Proposed Measures

The applicant has incorporated the following applicant proposed measures (APMs) into the project to minimize or avoid impacts on public services. See Chapter 1.0 for a full description of each APM that the applicant has incorporated into the project to avoid or minimize impacts on all resource areas.

APM PS-1: Maintain secured facilities during construction activities

APM HAZ-5: Prepare a health and safety plan,

APM HAZ-6: Develop and implement a fire risk management plan

3.14.2 Environmental Impacts and Mitigation Measures

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:

a. Fire protection?

LESS THAN SIGNIFICANT. Construction and operation of the project would not be expected to increase the demand for fire protection services in the regional area. During construction of the project, emergencies could occur within the project vicinity and PG&E would incorporate safety measures into the project as well as coordinate with local agencies. APMs that would address safety include preparation

of a health and safety plan (APM HAZ-5) and development and implementation a fire risk management plan (APM HAZ-6) as described in Section 3.8, Hazards and Hazardous Materials. In addition, road closures may occur; however, emergency vehicles would be provided access in the event of temporary freeway or road closures; the APMs associated with transportation are described in Section 3.16, Transportation and Traffic.

During operation of the project, the applicant would continue to implement their existing protection scheme and continue to employ a maintenance crew to provide ongoing inspection of the facilities (APM PS-1). The maintenance crew would look for any vandalism, safety, security, maintenance, and reliability issues along the project route.

The maximum emergency response times for fire services to areas along the project route are as follows: 10 minutes for Butte County, 5 minutes for the City of Oroville, 15 minutes for Yuba County, and 16 minutes for Sutter County, respectively. However, the safety features that would be incorporated into the project would reduce the demand for emergency services during construction and operation. Therefore, impacts on fire protection and response times would be less than significant.

b. Police protection?

LESS THAN SIGNIFICANT. Construction activities associated with the project would not be anticipated to increase the demand for police protection services in the regional area. The existing substation and switching station would remain fenced and locked to prevent unauthorized entry. In order to prevent unauthorized structure access from the ground, the first climbing steps or pegs for the tubular steel poles and the wood poles would be located approximately 10 to 12 feet above the ground. In addition, the applicant would continue to implement the existing protection scheme and continue to employ a maintenance crew to provide ongoing inspection of the facilities. During operation of the project, the maintenance crew would look for any vandalism, safety, security, maintenance, and reliability issues along the project route.

The maximum emergency response times for police services would be up to 30 minutes along the project route. However, the safety features that would be incorporated into the project would reduce the demand for emergency services during construction and operation. Therefore, impacts on police protection and response times would be less than significant.

c. Schools?

NO IMPACT. Construction of the project would require approximately 160 workers during peak activity. These construction personnel would likely commute from within Butte, Sutter, or Yuba counties or nearby counties and would not create a permanent change in local population (Section 3.13, Population and Housing). Upon completion, the project would be automated and require no additional employees for operation and maintenance. Since the project would not result in an increase in population during or after construction and would not increase the demand for school services, there would be no impact on schools.

d. Parks?

NO IMPACT. Park facilities in the regional area are described in Section 3.15, Recreation. The project would not increase population during or after construction that could increase the demands on existing parks, and no new or altered park or recreational facilities would be required. No impacts on parks would result from construction and operation of the project.

e. Other public facilities?

NO IMPACT. The project would not result in an increase in population during or after construction and, therefore, would have no impact on other public facilities.

References

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Butte County. 2008b. Personal Communication with Andrew Wetter, Butte County Sheriff's Office, ICF Jones & Stokes, October 23.

City of Oroville. 2008a. Personal Communication with Trish Briel, Administrative Assistant, Oroville Fire Department, ICF Jones & Stokes, October 24.

City of Oroville. 2008b. Personal Communication with Ryan Silva, Firefighter, Oroville Fire Department, ICF Jones & Stokes, October 23.

East Nicolaus Fire Department. 2008. Personal Communication with Richard Herrington, Chief, ICF Jones & Stokes, October 29.

Linda Fire Department. 2008. Personal Communication with Tim Taylor, Captain, Linda Fire Department, ICF Jones & Stokes, October 24.

Marysville Fire Department, 2008. Personal Communication with Curt Williges, Chief, ICF Jones & Stokes, October 29.

Olivehurst Fire Department. 2008a. Personal Communication with Eric Miller, Captain, ICF Jones & Stokes, October 24.

PG&E (Pacific Gas and Electric Company). 2009. Proponent's Environmental Assessment, Palermo-East Nicolaus 115 kV Transmission Line Reconstruction Project. Prepared for Land Planning and Routing Technical and Land Services, by ICF Jones & Stokes. February.

Sutter County. 2008. Personal Communication with Ida Loyd, Public Safety Dispatcher, Sutter County Police Department, ICF Jones & Stokes, October 29.

Wheatland Fire Department. 2008. Personal Communication with Arthur Paquette, Captain, ICF Jones & Stokes, October 24.

Yuba County. 2008. Personal Communication with Jerry Reed, Sheriff, Yuba County Sheriff's Department, ICF Jones & Stokes, October 29.

3.15 Recreation

Table 3.15-1 Recreation Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.15.1 Setting

The project passes within one half-mile of 10 public parks—nine in the City of Olivehurst and one in the City of Marysville. The project also passes within one half-mile of one private recreational facility and intersects with one private recreational facility, the Peach Tree Golf and Country Club. The locations of these facilities are shown in Table 3.15-2 below.

Table 3.15-2 Recreational Facility Locations

Miles to Transmission Line	Feet to Transmission Line	Jurisdiction	Facility Name
0.40	2092	City of Marysville	Gavin Park
0.02	102	Olivehurst Public Utility District	Community Park
0.49	2580	Olivehurst Public Utility District	Chestnut Park
0.28	1454	Olivehurst Public Utility District	Johnson Park
0.43	2296	Olivehurst Public Utility District	Rio Del Oro Park Site
0.46	2443	Olivehurst Public Utility District	Plumas Lake Park
0.29	1526	Olivehurst Public Utility District	Rio Del Oro Park 1
0.30	1579	COUNTY OF YUBA	Edgewater Park
0.29	1537	Olivehurst Public Utility District	Orchard Glen Park
0.50	2634	Olivehurst Public Utility District	Rolling Hills Park
.01	50	Private	Wyman Creek
0.00	Intersects With Transmission Line	Private	Peach Tree Golf and Country Club

Sources: Assessor's Parcels and County Land Use 2008, CPAD 2009, GNIS 2009

3.15.2 Environmental Impacts and Mitigation Measures

- 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?*

NO IMPACT. Population growth in a given area generally leads to increased use of recreational facilities, which can cause accelerated deterioration of the facilities. The project is not anticipated to induce

population growth during or after construction (Section 3.13, Population and Housing); therefore, there would be no impact under this criterion.

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

NO IMPACT. The project would not include recreational facilities or require the construction or expansion of recreational facilities. There would be no impact under this criterion.

References

Assessor's Parcels and County Land Use. 2008. Yuba and Sutter County GIS Departments. December.

California Protected Areas Database (CPAD). 2009. Greeninfo Network. March.

Geographic Names Information System (GNIS). 2009. U.S. Geological Survey Board of Geographical Names. April.

3.16 Transportation/Traffic

Table 3.16-1 Transportation/Traffic Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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 type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>

3.16.1 Setting

The project route would extend just over 40 miles and pass through Butte, Yuba, and Sutter counties including the City of Oroville. The project area is defined as the land within a 500-foot corridor of the two proposed transmission line segments. The applicant currently owns rights-of-way (ROWs) and easements along the entire project route. Additional overhang easements may be needed in some locations due to recent development on adjacent properties in the Marysville and Palermo areas. No major work at the substations will be done as a part of this project.

The transportation facilities in the project area include California State Routes and local access roads; railroads and waterways; bus, pedestrian and bicycle routes; and public and private airports. The project would not cross any federal roads.

State and Local Routes

The project area would be in proximity to the following three state routes. The California Department of Transportation (Caltrans) is the agency responsible for funding and maintaining state routes and highways within the State.

State Route (SR 20) serves commuter, commercial, agricultural, and recreational travel in Yuba County and as a regional east/west connection. It extends from west of Marysville through the Yuba County foothills and into Nevada County.

State Route (SR 65) serves both local and regional travel within Yuba County. It begins at Interstate 80 in South Placer County and extends to the north through downtown Wheatland, terminating at SR 70. SR 65 is a two-lane conventional highway from Wheatland to South Beale Road and a four-lane freeway north of South Beale Road to SR 70.

State Route (SR 70) serves both local and regional travel within Yuba County. It begins at SR 99 in Sutter County and extends to the north through Yuba County and into Butte County. It is a two- to four-lane conventional highway from Sutter/Yuba County Line to McGowan Parkway, where it becomes a four-lane freeway that extends into Marysville.

Project-area access road efficiencies were evaluated according to local circulation element guidelines that assign a Level of Service (LOS) rating based on factors such as speed, travel time, ability to maneuver, traffic interruptions, and safety. The majority of local access roadways in Butte, Yuba, and Sutter counties and the City of Oroville that would be used during construction are operating at an acceptable LOS C or better (Butte County 1984; City of Oroville 1995; Sutter County 1996; Yuba County 1996) with the exception of Simpson Lane in Yuba County, which operates at LOS D during p.m. peak-hour traffic volumes (Yuba County 2007).

Waterways and Railroads

The project route would cross several waterways (Figure 3.9-1). The project route would also parallel and cross Southern Pacific Railroad and Union Pacific Railroad lines. Crossing structures would be installed at all major roads, railroads, and other utility crossings along the project route to prevent injury or damage from the inadvertent falling of a conductor.

Southern Pacific Railroad lines extend through Sutter County east of Highway 70 from Sacramento County to Yuba City, and north of Yuba City to Butte County. The rail lines are available for the transport of agricultural goods and other materials. Rail passenger service is only available from Oroville by way of the Amtrak Coast Starlight. Union Pacific Railroad owns and operates two freight railroads for commodity transport in Yuba County.

Airports

There are several existing airport facilities in the project area. In Butte County, the Oroville Municipal Airport is located approximately 4.5 miles northwest from the project alignment in Palermo (Butte County). In Sutter County, the Sutter County Airport is located approximately 3 miles from the project route. In Yuba County, the Yuba County Airport is located approximately 0.75 miles west of the project route in the Town of Olivehurst, and the Beale Air Force Base is located approximately 3.5 miles from project route in the Town of Linda (Yuba County 1996). Siller Bros Inc. Aviation, a private airstrip, is located within 2 miles of the project route.

Alternate Modes of Transportation

There is a range of alternate modes of transportation within the project area. In addition to rail and air travel, there are local transit services for disabled and elderly residents; public and private buses; and infrastructure for pedestrians and bicycles.

The Butte County Association of Governments (BCAG) is the designated organization responsible for the preparation of all federal- and state-required transportation planning and programming documents for Butte County and the City of Oroville (BCAG 2004). The Sacramento Area Council of Governments (SACOG) is the Transportation Planning Agency designated by the Director of the Department of Transportation for the Sacramento Region, providing regional transportation planning and funding for Sutter County and Yuba County (SACOG 2009). At the local level, transportation planning is the responsibility of the three counties (Butte, Yuba, and Sutter) and the City of Oroville.

Regulatory Setting

Caltrans and Western Pacific / Union Pacific Railroad

The applicant would be required to obtain encroachment permits from Western Pacific / Union Pacific Railroad and Caltrans for railway and road crossings.

Sacramento Area Council of Governments

SACOG, which is an association of governments in the six-county Sacramento Region responsible for transportation planning and funding, has established a Congestion Management Program (CMP) for Yuba and Sutter counties as part of its Metropolitan Transportation Improvement Plan (SACOG 2009). The CMP is a countywide program designed to keep traffic congestion within an acceptable standard. The CMP must include traffic flow standards, standards for public transit service, a program to analyze the traffic impacts of land use decisions, a “trip reduction/travel demand” element to reduce vehicular use, and a 7-year capital improvement program.

Butte County

Chapter 14, Motor Vehicles and Traffic, of the Butte County Municipal Code addresses a range of traffic and transportation issues, including travel demand management and trip reduction, but does not include system performance measures. The Butte County General Plan, Transportation Element (Butte County 1984) addresses transportation planning in the County, and includes performance standards for the transportation circulation system. It also addresses congestion management.

Yuba County

Title IX, Vehicle and Traffic Codes, of the Yuba County Ordinance Code addresses a range of traffic and transportation issues, including travel demand management and trip reduction, but does not include system performance measures. The Yuba County General Plan, Transportation Element (Yuba County 1996) addresses transportation planning in the county, and includes performance standards for the transportation circulation system. Congestion is addressed in the SACOG CMP for Yuba and Sutter counties.

Sutter County

Chapters 1100 to 1160, Traffic, of the Sutter County Municipal Code address a range of traffic and transportation issues, including travel demand management and trip reduction, but does not include system performance measures. The Sutter County General Plan, Transportation Element (Sutter County 1996) addresses transportation planning in the county, and includes performance standards for the transportation circulation system. Congestion is addressed in the SACOG CMP for Yuba and Sutter counties.

City of Oroville

The City of Oroville County General Plan, Transportation Element (City of Oroville 1995) addresses transportation planning and includes performance standards for the transportation circulation system.

Applicant Proposed Measures

The applicant has incorporated the following applicant proposed measures (APMs) into the project to minimize or avoid impacts on transportation and traffic. See Chapter 1.0 for a full description of each APM that the applicant has incorporated into the project to avoid or minimize impacts on all resource areas.

APM AIR-4: Implement standard mitigation measures

APM HAZ-4: Develop and implement a helicopter lift plan

APM HAZ-5: Prepare a health and safety plan

APM HAZ-6: Develop and implement a fire risk management plan

APM TRAN-1: Restriction of Simpson Lane during p.m. peak Hours

3.16.2 Environmental Impacts and Mitigation Measures

Project construction is anticipated to take 12 to 18 months and would require an excavation crew, a light-duty helicopter crew, a heavy-duty helicopter crew, a pole crew, line crew, substation crew, and environmental monitor. Equipment that may be used includes a line truck, water truck, four-wheel-drive pickups, 70-ton crane, helicopter, auger, bulldozer, hand tools, rope truck for reconductoring, and a truck-mounted rope puller and conductor tensioner. Details about the project construction schedule, number of workers, and construction-related truck trips are provided in Table 3.16-2.

Table 3.16-2 Construction Phases, Workers, Truck Trips, Schedule, and Activities

Project Phase	Total Days of Construction ¹	Maximum Number of Workers	Maximum Daily Delivery Trucks	Total Daily Delivery Trucks for the Project
Construction of Staging areas/helicopter landing zones and new temporary roads	120	30	5	50
Existing Tower removal and Tower Site Recovery ²	120	30	5	500
Pole Site Excavation, concrete base construction and new pole installation ³	300	50	10	1,400 ⁴
Transmission Line Installation	200	30	5	500
Staging areas/helicopter landing zones recovery	100	20	5	20

Source: PG&E 2009

Notes:

¹ Off-road construction equipment is assumed to operate 12 hours per day.

² Includes the helicopter operation of two Bell 214 and two Hughes 500, which are assumed to operate 4 hours per day for a total of 100 hours for each helicopter.

³ Includes the helicopter operation of one Bell 214 and two Hughes 500. One Bell 214 is assumed to operate 4 hours per day for a total of 100 hours and two Hughes 500 are assumed to operate 8 hours per day for a total of 200 hours for each helicopter.

⁴ Includes concrete trucks for pole foundation construction.

- 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?*

LESS THAN SIGNIFICANT WITH MITIGATION. The project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Although the general plans for Sutter, Butte and Yuba counties and the City of Oroville all include performance measures for traffic and transportation, the project would not cause a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections that would conflict with the effectiveness of the circulation system. Construction is anticipated to occur over a 12- to 18-month period, and there would be a temporary increase in truck traffic on regional and local roadways in the project area.

During construction of the transmission line modifications and telecommunication improvements, periodic single-lane closures may be required, which could temporarily impact traffic conditions along the project route. The traffic management procedures required under the encroachment permits that the applicant would be required to obtain, however, would ensure adequate traffic flow. The traffic management procedures would require the use of sufficient signage to alert drivers of construction zones, notification of emergency responders prior to construction, community outreach, and traffic control around schools (APM AIR-4). To ensure that advance notification to nearby airports, railroads, and schools would take place, the following mitigation measure is required:

MM TRAN-1: Construction Notification. PG&E will provide advance notice to nearby airports, railroads, and schools in the project vicinity regarding construction activities.

During operation and maintenance, the reconstructed transmission lines would be monitored and the applicant's personnel would only visit the project area for repairs on an as-needed basis. Such visits would require substantially fewer trips than during construction and would result in a less than significant impact on the effectiveness of the circulation system. Therefore, with the implementation of MM TRAN-1, impacts under this criterion would be less than significant.

- 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?*

LESS THAN SIGNIFICANT. Construction of the project is not anticipated to exceed a level of service standard established by the county congestion management agencies for the project. Due to the short-term and linear nature of project, construction activities are not anticipated to impact traffic levels. Construction crews and vehicles (Table 3.16-2) would use existing paved or graveled roads along most of the transmission line corridor to access tower/pole sites; these include existing paved roads and farm roads, in addition to existing maintenance access to the existing transmission lines. Where necessary, existing access roads would be widened to a maximum of 16 feet, and new, temporary, access roads will be constructed. The traffic management plan required by the encroachment permits would include provisions for signage and noticing to inform the public about work before any disruptions occur, the use of flagmen and/or escort vehicles to control and direct traffic flow, and scheduling roadway work during periods of minimum traffic flow (APM AIR-4).

Access would be primarily by existing major roadways suitable for truck traffic. The roadways within Butte County, the City of Oroville, and Sutter County that would be used for construction are identified above as having an LOS are operating at LOS C or better and currently meet the adopted operating standards. In Yuba County, the roads currently operate at acceptable levels during the p.m. peak hour with the exception of a portion of Simpson Lane, which operates at LOS D during p.m. peak-hour traffic volumes. To reduce impacts to Simpson Lane, the applicant would implement APM TRAN-1.

During operation and maintenance, the reconstructed transmission lines would be monitored and the applicant's personnel would only need to visit the project area for necessary repairs on an as-needed basis. Therefore, the project would not exceed a level of service standard, and impacts would be less than significant under this criterion.

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?

LESS THAN SIGNIFICANT. During construction, helicopters would be used to transport materials and work crews to locations where overland access is not possible or difficult due to topography and vegetation, and otherwise as warranted by construction needs. Temporary helicopter landing areas would be established to pick up and drop off crew and materials, as well as to stage and refuel. Although operation of the helicopters would result in a temporary change in air traffic patterns, the applicant would require the contract helicopter vendors to develop and implement a helicopter lift plan (APM HAZ-4) as required by the FAA to mitigate safety risks. The FAA also requires notice about construction or alteration projects that exceed a height restriction of 200 feet above ground level per Federal Aviation Regulations (FAR) Part 77 (Yuba 1994).

Since the existing steel towers range in height from 75 to 95 feet and the replacement structures would range in height from 80 to 120 feet, the project would not constitute a new obstruction to navigable air space under FAR Part 77. Therefore, with implementation of APM HAZ-4, the project would not result in a change in air traffic patterns that would result in substantial safety risks, and impacts would be less than significant under this criterion.

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)?

LESS THAN SIGNIFICANT WITH MITIGATION. The project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). During construction, towers would be removed and replaced, and transmission lines would be pulled across roadways, waterways, and railroad tracks. The maneuvering of construction-related vehicles and equipment among the general-purpose traffic on local roads could cause safety hazards.

To minimize potential hazards, traffic management procedures would be prepared and submitted for approval by Caltrans and/or local authorities pursuant to the encroachment permit(s). Construction or installation work requiring the crossing of a local street, highway, or rail line would incorporate the use of guard poles, netting, or similar means to protect moving traffic and structures from the activity. In addition, the only construction activities that would occur at night would be those required to raise towers. The majority of construction staging activities, including onsite and offsite vehicle movement, would occur during the day, and nighttime construction would only occur from June 1st to October 1st (Chapter 1, Background Information).

The traffic management plan required by the encroachment permits would include provisions for signage and noticing to inform the public about work before any disruptions occur, the use of flagmen and/or

escort vehicles to control and direct traffic flow, and scheduling roadway work during periods of minimum traffic flow (APM AIR-4). Any specific transportation needs (e.g., temporary road closures) would be identified in the plan and coordinated with the appropriate jurisdictions (encroachment permit requirements). Damage to local streets would be repaired and streets restored to their pre-project condition during and at the completion of construction of the project pursuant to the encroachment permits. In addition, the applicant will provide advance notice to nearby airports, railroads, and schools in the project vicinity regarding construction activities (MM TRAN-1).

The existing access roads have several “wet” crossings (cobble base) that may be impassible for larger/heavier construction vehicles; therefore, portable bridges that would span top of bank to top of bank are proposed. Vehicular traffic and heavy equipment would be scheduled for the dry/low flow season. If bridging is not possible, construction would utilize sky crane helicopters to transport materials to job sites. During construction, helicopters would be used to remove existing towers, install new poles, and to deliver materials and workers to locations where overland access is difficult. The helicopter vendor would prepare a helicopter lift plan for approval by the FAA prior to helicopter operations (APM HAZ-4).

Operation of the project would not substantially increase hazards due to a design feature or incompatible uses because operation of the project would not involve, create, or increase hazards at applicable transportation-related facilities. Therefore, construction and operation of the project would result in a less than significant impact with implementation of MM TRAN-1.

e. Would the project result in inadequate emergency access?

LESS THAN SIGNIFICANT. The project would not permanently change the existing circulation system and emergency access routes. However, construction activities may result in temporary open trenches and traffic lane closures for large equipment and/or vehicles that could potentially delay or obstruct emergency access for the fire or police departments. As required by the encroachment permits, traffic management procedures will protect workers as well as moving traffic, structures, and local streets during construction activities.

Under the encroachment permit, damage to roadways will be repaired, and streets will be restored to their pre-project condition during and at the completion of construction of the project. This will reduce potential impacts to emergency response along roadways in the project area. If road closures are required, the applicant would coordinate with local agencies to maintain emergency access routes or services pursuant to the encroachment permit (APM AIR-4). The applicant would also prepare a Health and Safety Plan (APM HAZ-5) and develop and Implement a Fire Risk Management Plan (APM HAZ-6). Therefore, impacts would be less than significant under this criterion.

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?

LESS THAN SIGNIFICANT. The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycles, or pedestrian facilities or otherwise decrease the performance of such facilities. The majority of project construction would take place within the existing project right-of-way. During construction and maintenance of the project, temporary lane closures may be required in some areas where power lines would cross roads; however, this would not permanently impact traffic flow including all affected modes of transportation and access. Therefore, construction and operation of the project would result in a less than significant impact under this criterion.

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3.17 Utilities and Service Systems

Table 3.17-1 Utilities and Service Systems Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<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 stormwater drainage facilities or expansion of existing 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 solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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"/>

3.17.1 Setting

The project route would pass through Butte, Yuba, and Sutter counties including the City of Oroville. This section describes existing water and solid-waste utility and service systems in these jurisdictions. Table 3.17-2 provides a summary of existing water and solid waste services in the regional area.

Butte County

Wastewater

Wastewater service in the Butte County project area is provided to residences by private septic systems. The nearest municipal system is the Oroville Regional Wastewater Treatment Plant (WWTP) owned and operated by the Sewerage Commission—Oroville Region. The WWTP is a regional treatment plant, which provides wastewater service to the City of Oroville, Thermalito Irrigation District, Lake Oroville Area Public Utility District, California Parks and Recreation Department, and California Department of Water Resources. The Oroville Regional WWTP treats approximately 3.2 million gallons per day (mgd) with a design average dry weather flow capacity of 6.5 mgd.

Table 3-17-2 Utilities and Service Systems Summary by Jurisdiction

Jurisdiction	Wastewater Service	Potable Water	Water Service	Solid Waste Company/Landfill Site
Butte County	Approximately 50,000 on-site sewage disposal systems (septic systems)	Miners Ranch Reservoir; 14.5 mgd capacity	South Feather Water and Power	Neal Road Landfill; maximum disposal approximately 1,500 tons per day; capacity approximately 20,217,600 cubic yards (13,141,300 tons)
City of Oroville	<ul style="list-style-type: none"> • City of Oroville • Thermalito Irrigation District • Lake Oroville Area Public Utility District 	Sewerage Commission, Oroville Region (SCOR) Plant	Calwater—Oroville (a private supplier); the project area served by the South Feather Water and Power Agency	Norcal Waste Systems
Yuba County	<ul style="list-style-type: none"> • Linda County Water District • Olivehurst Public Utilities District • Individual Septic Systems 	Yuba County Water Agency	<ul style="list-style-type: none"> • Olivehurst Public Utility District • Brophy Water District • Cordua Irrigation District • South Yuba Water District • Linda County Water District 	<ul style="list-style-type: none"> • Yuba-Sutter Disposal, Inc. • Ostrom Road Landfill
Sutter County	Private Septic Systems	Private Wells*	South Sutter Water District	N/A

Note:

*Most Sutter County residents and businesses pump potable water from privately owned wells. Several municipal and community systems operate within Sutter County, but the project area is not served by any of them.

Potable Water and Water Service

The nearest municipal water system to the in the Butte County project area is located in the City of Oroville. Residents in this project area use potable water supplied by a surface water diversion from a spring. The spring ties into the Oregon Gulch, which then ties into the South Fork of the Feather River downstream of Lake Oroville. A portion of the project route located in unincorporated Butte County is supplied with water by the South Feather Water and Power Agency (Agency). Areas not served by the Agency extract water from groundwater basins through privately owned wells (Butte County 2007).

Stormwater Drainage

Butte County does not maintain a stormwater drainage system in the vicinity of the project route. Stormwater drainage is handled by the individual incorporated cities.

Solid Waste/Landfills

The management of non-hazardous solid waste in Butte County is mandated by state law and guided by policies at the state and local levels. Solid waste services are not currently utilized at the project site. There are four hauling companies that service unincorporated Butte County. The nearest transfer station is Oroville and is operated by Norcal Waste Systems. Solid waste is transferred to the Neal Road Landfill. The landfill is located in Paradise, California on 190 acres with 140 acres available for disposal. As of July 2005, approximately 22 million cubic yards of disposal capacity were remaining out of a total 25

million cubic yards. On average, the landfill receives 700 to 800 tons per day and is permitted to receive 1,500 tons per day (Butte County 2009).

City of Oroville

Wastewater

The City of Oroville provides wastewater collection services to approximately 13,500 individuals. Current wastewater flows are 1.9 mgd and are expected to grow to approximately 3.2 mgd over the next 20 years. The city collection system is sufficient to meet current demands; however, the pipelines for transporting the city's wastewater are not large enough to support additional growth. To support expected growth, new developments will be required to upgrade the existing collection system infrastructure to accommodate additional capacity.

The Thermalito Irrigation District of the City provides wastewater collection services to approximately 1,985 customers. Wastewater flows currently average 0.37 mgd and are expected to grow to 0.67 mgd within the next 20 years.

Potable Water and Water Service

Refer to the Butte County section.

Stormwater Drainage

The Lake Oroville Area Public Utility District provides sewer collection services to approximately 12,000 individuals. Their service area is primarily in unincorporated areas east and south of the City of Oroville. The district's population is expected to grow to more than 20,000 individuals by 2025. The District collects an average of 384 million gallons of wastewater annually. The current demand of 0.81 mgd is expected to grow to 1.35 mgd over the next 20 years. Currently, no capacity issues exist with collection volumes, and there are no plans for capacity expansion. New development in the District's service area may be required to upgrade existing collection systems if additional capacity is required (City of Oroville 2008).

Solid Waste/Landfills

The City of Oroville contracts for solid waste collection and recycling services to be provided by Norcal Waste Systems. Waste generated within the city limits gets collected and processed at the Oroville Transfer Station. This station receives more than 200 tons of material per day on average and is permitted to receive 975 tons per day. This permitted volume is greater than the City of Oroville's needs for the foreseeable future, and no plans now exist for expansion of this facility. Once processed, waste that cannot be recycled is transported to the Ostrom Road Landfill. The landfill is expected to reach its capacity of 41.8 million cubic yards in 2066, and there are no planned expansions or deficiencies at the landfill at this time (City of Oroville 2008).

Yuba County

Wastewater

Portions of the project route that would not lie within serviced areas of Yuba County do not receive central wastewater treatment. These areas rely on septic systems. Septic systems are located on individual properties and provide treatment of wastewater onsite. Septic systems are allowed in most areas of the county only if no public sewer system exists nearby. Property owners must maintain their own septic systems in these areas. Approximately 9,000 septic systems exist throughout Yuba County (Yuba Local Agency Formation Commission 2008).

Potable Water and Water Service

Yuba County has adequate water supplies on the whole. Yuba County Water Agency and Browns Valley Irrigation District are major water rights holders whose future water supplies are affected by increased flow requirements of the Lower Yuba River Accord. The North Yuba Water District and Nevada Irrigation District are also among the major water suppliers to Yuba County. In the long term, there may be inadequate groundwater supplies to serve future development in the county.

Stormwater Drainage

In the unincorporated areas of Yuba County, the drainage system consists of roads with drainage systems, catch basins, water basins, detention basins, constructed wetland, artificial channels, aqueducts, curbs, gutters, ditches, sumps, pumping stations, storm drain inlets, and storm drains. The county plans on developing a master underground drainage system in Linda and Olivehurst to address problems with their current system. Improvements identified in the plan will be funded and constructed by developers.

Yuba County prepared a drainage master plan for southwest Yuba County in 1981 and issued an update to the plan in 1992, identifying drainage improvements for the area. With the exception of the Eastside Interceptor Canal, all of the major improvements have been made since the publication of the plan, including the Olivehurst Interceptor Canal, Olivehurst Detention Basin, Eastside Interceptor Canal, and the County Regional Detention Basin (Yuba Local Agency Formation Commission 2008).

Solid Waste/Landfills

Yuba-Sutter Disposal, Inc. collects more than 100,000 tons of materials and serves more than 43,000 residential customers and 3,000 commercial customers (YSD 2009). The amount of trash collected from Yuba and Sutter counties has increased from 127,289 tons in 1995 to 139,649 in 2006.

Ostrom Road Landfill is the only active solid waste landfill in Yuba County. A Class II landfill, the facility is owned and operated by Norcal Waste Systems, Inc., and has a total disposal area of 225 acres. The Ostrom Road Landfill has a permitted capacity of over 41.8 million cubic yards. More than 97 percent of its capacity is still available. The landfill can accept a maximum of 3,000 tons of waste a day. The estimated closure date of the landfill is December 31, 2066. According to the California Integrated Waste Management Board, the Ostrom Road Landfill has adequate capacity to accommodate current and projected service demands (Yuba Local Agency Formation Commission 2008).

Sutter County

Wastewater

The South Sutter Water District is a public agency that provides irrigation water to 52,000 acres of land including the project area. Located on the eastern side of Sutter County, the South Sutter Water District's surface water is obtained from the Camp Far West Reservoir, located within their service area. South Sutter Water District has also purchased surplus water from the Nevada Irrigation District in the past (Sutter County 2008).

Wastewater in Sutter County is treated at individual parcels with septic systems (onsite treatment facilities) or at community or city wastewater treatment plants. The project area would not be within the service area of any community or city wastewater treatment plants and would be entirely served by private septic systems (Sutter County 2008).

A portion of the project route in southeast Sutter County would be located in the Reclamation District 1001 watershed. The District watershed encompasses an area of approximately 54 square miles and drains south to the Verona Pump Station, which has a total capacity of 577 cubic feet per second and pumps the water into the Cross Canal. Reclamation District 1001 also has three small pump stations that lift stormwater from the northern portion of the watershed into the Yankee Slough (Sutter County 2008).

Potable Water and Water Service

Potable water in Sutter County is provided from the Feather River by groundwater and surface water, although most of Sutter County uses groundwater for potable water supplies that are pumped by privately owned wells. Several municipal and community potable water systems operate within Sutter County, but the project area is not served by any of them. The County's groundwater supply is at risk due to a variety of naturally occurring contaminants, which are currently being addressed through the preparation of a groundwater management plan to help protect the county's groundwater resources.

Additionally, several irrigation water companies and districts provide irrigation water within Sutter County. Their main source of water is from the Feather and Sacramento Rivers. When surface water supplies are reduced or not available during the summer, groundwater is also used.

Stormwater Drainage

As mentioned above, a portion of the project route in southeast Sutter County would be located in the Reclamation District 1001 watershed. The District watershed encompasses an area of approximately 54 square miles and drains south to the Verona Pump Station, which has a total capacity of 577 cubic feet per second and pumps the water into the Cross Canal.

Solid Waste/Landfills

No solid waste management facilities or transfer stations are located within Sutter County. Solid waste management for Sutter County is conducted by Yuba-Sutter Disposal, Inc. under a joint agreement with Yuba County; the cities of Marysville and Wheatland in Yuba County; the cities of Live Oak and Yuba City in Sutter County; and the City of Gridley in Butte County. The agreement was made in 1990 to jointly address the provision of waste management services including the planning for the future provision of waste management services. Yuba-Sutter Disposal, Inc. provides for the collection, recycling, and disposal of municipal solid waste in Sutter County.

Applicant Proposed Measures

The applicant has incorporated the following applicant proposed measures (APMs) into the project to minimize or avoid impacts on utilities and service systems. See Chapter 1.0 for a full description of each APM that the applicant has incorporated into the project to avoid or minimize impacts on all resource areas.

APM USS-1: Conduct a pre-construction records search/field survey to identify specific locations of water wells and well fields

APM USS-2: Notify underground service alert at least 14 days prior to initiation of construction activities in the underground portion of the power line

APM AIR-3: Minimize greenhouse gas emissions during construction

APM HYDRO-1: Prepare and implement a storm water pollution prevention plan

3.17.2 Environmental Impacts and Mitigation Measures

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

NO IMPACT. Because project construction would only involve replacement of existing steel towers, reconductoring, and minor substation modifications, water use would be minimal and limited to dust control activities and crewmember consumption. Therefore, the project would not exceed wastewater treatment requirements established by the Central Valley Regional Water Quality Control Board. Additionally, there are no population growth impacts associated with the project; therefore, wastewater treatment and other utility and service systems along the project route would not be affected. Project construction would negligibly affect wastewater because construction crews would use portable toilets; however, no changes to wastewater treatment facilities would be required due to the small amount of waste generated. PG&E would operate and maintain the new transmission line in the same way they operated and maintained the original line, which did not require water because transmission lines do not require water to operate. Therefore, it would not generate substantial amounts of wastewater, and no impact would occur under this criterion.

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?

NO IMPACT. The water supply and wastewater treatment aspects of the project would be designed such that the project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. The amount and source of water needed for construction would depend on the time of year and the construction location. Water would be primarily used for dust control and fire protection during construction. All water used would be trucked in from an outside source in the project vicinity. The project would use available reclaimed water for this purpose. The amount required for the duration of the project is estimated at 2,000 gallons per day for 100 days (200,000 gallons total). No water would be required for project operation.

Wastewater use for the average transmission line construction workforce would be minimal and temporary (approximately 50 workers maximum per day). Portable restrooms would be used and maintained during construction and removed after the completion of project construction. No impact to local sewer systems would result from the project and no new water or expanded wastewater treatment facilities would be required. Therefore, no impact would occur under this criterion.

c. Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

LESS THAN SIGNIFICANT. The project would not result in a need for new stormwater drainage facilities nor substantially alter existing facilities. Construction of the project would not increase stormwater runoff from roadways. The project route would be accessed primarily via existing access roads, but temporary access roads would still be needed and limited improvements to permanent access roads would be made. Additionally, prior to power line construction, temporary lay down (staging) areas would be prepared to provide space for materials delivery, storage, and preparation; equipment storage; crew parking; and offices prior to installation. In addition, there would be helicopter landing zones, pull sites, and temporary access roads for construction vehicles and workers.

The temporary construction areas and access roads would involve vegetation maintenance such as mowing, trimming, and blading, and may affect drainage temporarily. The effects to vegetation should regenerate naturally with little restorative effort. However, PG&E would obtain the appropriate permits (encroachment permits from Caltrans) for potential drainage impacts due to staging areas. Construction areas and access roads would be temporary and be restored to near preconstruction conditions after project construction is completed. They would not result in a permanent impact to drainage in the area. New or expanded stormwater drainage facilities would not be required.

In addition, a Stormwater Pollution Prevention Plan (SWPPP) would be written for the entire project as described in APM HYDRO-1, and workers would receive instruction about the plan. Existing stormwater management procedures would also apply, but the project would not require or result in the need for new stormwater drainage facilities or the expansion of existing facilities. Therefore, impacts would be less than significant under this criterion.

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?

NO IMPACT. Water would only be required for dust suppression purposes or for the concrete for filling the new pole holes, as needed, during construction of the transmission line. Sufficient sources of potable water are available for PG&E to conduct standard dust and fire-suppressant activities, as well as for crew consumption during construction. The amount of water used during the 12 to 18 months construction period would be minimal. Therefore, no impact would occur under this criterion.

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?

NO IMPACT. The project would not be served by a wastewater treatment provider. During project construction, portable restrooms would be used. Additionally, water use would be minimal and limited to dust control activities and crew consumption. Because the project involves reconductoring of existing transmission lines and minor substation modifications, the same operations and maintenance activities would resume for the new facilities; therefore, no wastewater treatment would be required as part of the project, and there would be no impact on wastewater treatment providers or their capacities.

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

LESS THAN SIGNIFICANT. The Neal Road Landfill is anticipated to be able to continue to receive solid waste until at least the year 2033. Ostrom Road Landfill has adequate capacity to accommodate current and projected demand for service until 2066. The permitted maximum disposal amount at the Neal Road is 1,500 tons per day. Yuba and Sutter counties' Ostrom Road Landfill can accept a maximum of 3,000 tons of waste a day and is estimated to have enough capacity to remain open until the year 2066 with only about three percent in use as of 2006.

The project would have a less than significant affect on landfills because it would generate a small amount of construction waste that can easily be accommodated by the existing landfills within the area. In addition, construction waste will be recycled to the maximum extent possible. Upon completion of tower modifications, reconductoring, and substation modifications, operations and maintenance of the transmission line would continue in the same manner as it did prior to the project. Capacity levels of existing landfills would be sufficient for the continuation of operations and maintenance activities. This disposal activity would have a minimal impact on the capacity of existing landfills and would not require

the development of new or expanded landfills. Additionally, under APM AIR-3, construction waste recycling would be encouraged. Therefore, impacts would be less than significant under this criterion.

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

NO IMPACT. The project would comply with the California Integrated Waste Management Act of 1989 (AB 939), which requires each city and county in California to prepare, adopt, and implement a Source Reduction and Recycling Element (SRRE). The purpose of the SRRE is to identify how the jurisdiction would divert through source reduction, recycling, and composting, 25 percent of its solid waste from landfill or incinerator disposal by 1995, and 50 percent by the year 2000. County of Butte Department of Public Works reports that in 2008, the county was diverting more than 51 percent of its solid waste from landfill disposal.

The project would not generate additional solid waste except during the construction period. For the few existing wood poles that would be removed during the course of the project, PG&E would make the poles available for reuse or, if demand does not exist for the poles, would dispose of them in an appropriate landfill with sufficient capacity to accept the material. Other miscellaneous non-hazardous construction materials that could not be reused or recycled would likely be acceptable for disposal at county landfills. Any hazardous materials and wastes will be recycled, treated, and disposed of in accordance with federal, state, and local laws.

During project construction, PG&E would dispose of all waste in accordance with published national, state, or local standards relating to solid waste. The same operations and maintenance activities conducted for the previous transmissions lines would be conducted for the new lines. PG&E would adhere to all national, state, or local standards for the disposal of solid waste during operation and maintenance of the line. Therefore, there would be no impact under this criterion.

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3.18 Mandatory Findings of Significance

Table 3.18-1 Mandatory Findings of Significance Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<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 checked="" type="checkbox"/>	<input type="checkbox"/>
c. Does the project have environmental effects which 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"/>

Applicant Proposed Measures

The applicant has incorporated the following applicant proposed measures (APMs) into the project to minimize or avoid impacts. See Chapter 1.0 for a full description of each APM that the applicant has incorporated into the project to avoid or minimize impacts on all resource areas.

APM BIO-1 through BIO-24

APM CR-1: Stop work if previously unknown cultural resources are discovered.

APM CR-2: Stop work if previously unknown paleontological resources are discovered.

APM CR-3: Stop work if human remains are discovered.

APM HAZ-1: Implement a Spill Prevention Plan

APM HAZ-2: Conduct construction soil sampling and testing if soil contamination is suspected.

APM HAZ-3: Conduct groundwater sampling and testing if suspected contaminated groundwater is encountered during construction.

APM HAZ-4: Develop and implement a helicopter lift plan

APM HAZ-5: Prepare a health and safety plan

APM HAZ-6: Develop and implement a fire risk management plan

- a. *Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

LESS THAN SIGNIFICANT WITH MITIGATION. A number of special-status wildlife and plants have been identified that may be impacted by construction of the project. Implementation of the APMs and mitigation measures (MMs) discussed in Section 3.4, Biological Resources, however, would be sufficient to protect these species and their habitat. The APMs and MMs would also be sufficient to protect other fish and wildlife found in the project area and would reduce potential impacts to less than significant levels.

Though the project route would cross several areas of high paleontological sensitivity, implementation of the APMs and MMs discussed in Section 3.5, Cultural Resources, to protect potential historical, archaeological, and paleontological findings during construction of the project, would be sufficient to reduce impacts to less than significant levels. Therefore, impacts under this criterion would be reduced to less than significant levels.

- 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)?*

LESS THAN SIGNIFICANT. The project involves the reconstruction of an existing transmission line including the replacement of towers, poles, and conductors. Potential cumulative impacts could occur with regard to air pollutant or greenhouse gas emissions. Implementation of the APMs discussed in Section 3.3, Air Quality, and Section 3.7, Greenhouse Gas Emissions, would be sufficient to mitigate air quality impacts during construction and operation of the project. Cumulative impacts associated with air pollutants are addressed in Section 3.3, Air Quality.

Greenhouse gas (GHG) emissions, and their contribution to climate change, are an inherently cumulative impact. However, GHG emissions from electrical transmission projects are generally much lower than those from other types of construction projects. In 2008, the most recent year that data is available, GHG emissions in California were estimated by the California Air Resources Board to be approximately 477.74 million metric tons (MMT) of carbon dioxide or carbon dioxide equivalents (CO₂e). Of this total, 0.96 MMT (or 0.2%) were calculated to be associated with electric transmission and distribution (CARB 2010). Based on this data, project emissions would account for approximately 0.0006% of GHG emissions statewide (2652 MT CO₂e for the project, Appendix A). To further reduce the cumulative significance of project-related GHG emissions, under APM AIR-3, worker carpooling, construction waste recycling, and biodiesel use would be encouraged to reduce greenhouse gas emissions during construction.

Cumulative impacts could also occur with regard to other resource areas. Other than the maintenance of existing transmission lines in the regional area, however, no activities associated with past, present, or reasonably foreseeable future projects are anticipated. Therefore, impacts under this criterion would be less than significant.

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

LESS THAN SIGNIFICANT WITH MITIGATION. Implementation of the APMs and MMs discussed in Section 3.8, Hazards and Hazardous Materials, for hazardous materials, substance, and waste handling and wildfire prevention would reduce potential impacts to human beings, either directly or indirectly, to less than significant levels. Therefore, impacts under this criterion would be reduced to less than significant levels.

References

California Air Resources Board (CARB). 2010. California Greenhouse Gas Inventory for 2000 to 2008: By Category as Defined in the Scoping Plan. May 12.

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